

THE MILLING WORLD

AND

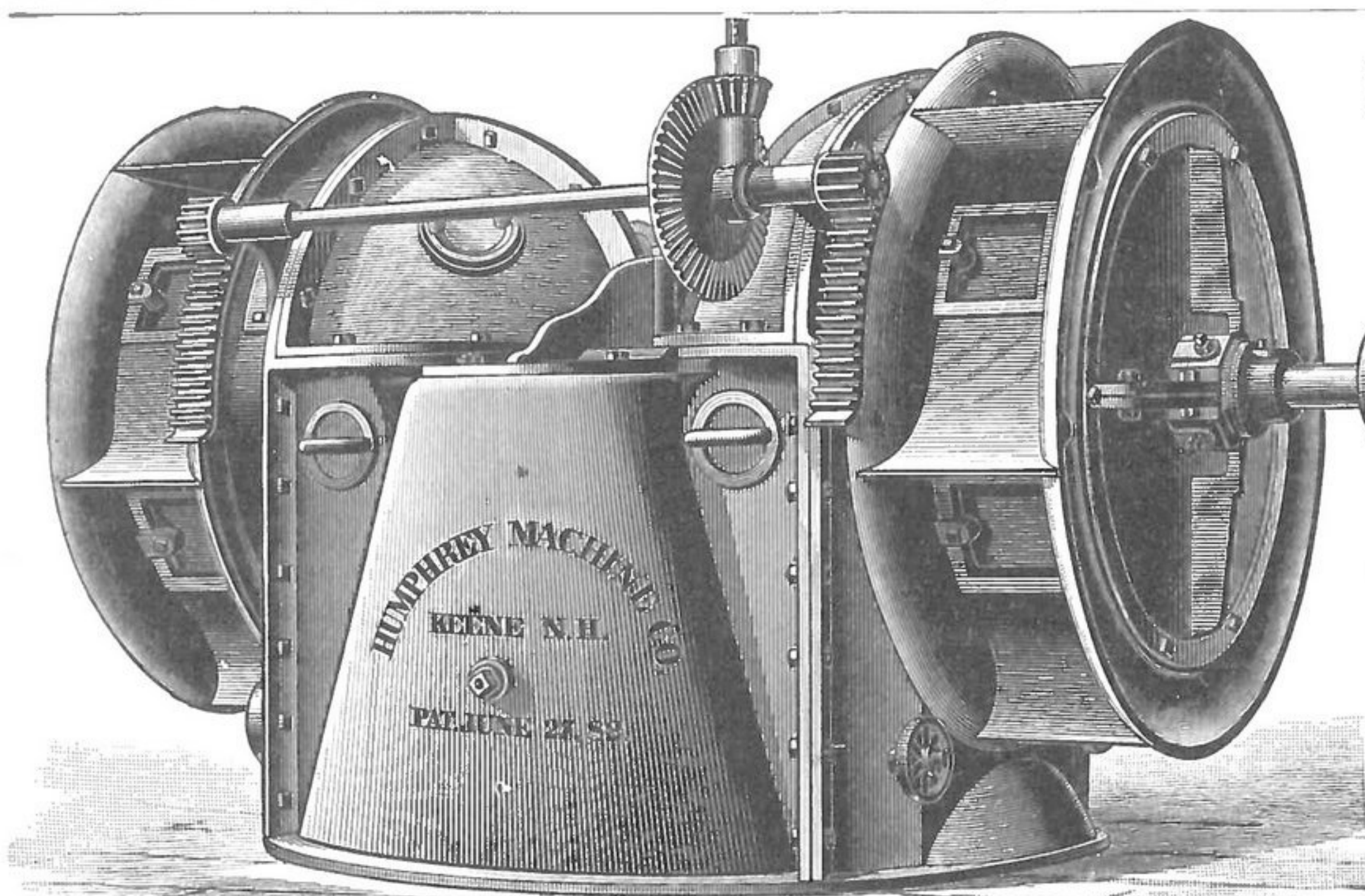
CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY MORNING.

VOL. XXII. No. 24.

BUFFALO, N. Y., AUGUST 11, 1890.

\$1.50 PER YEAR.



THE X-L-G-R OR
CIRCUMSHOT

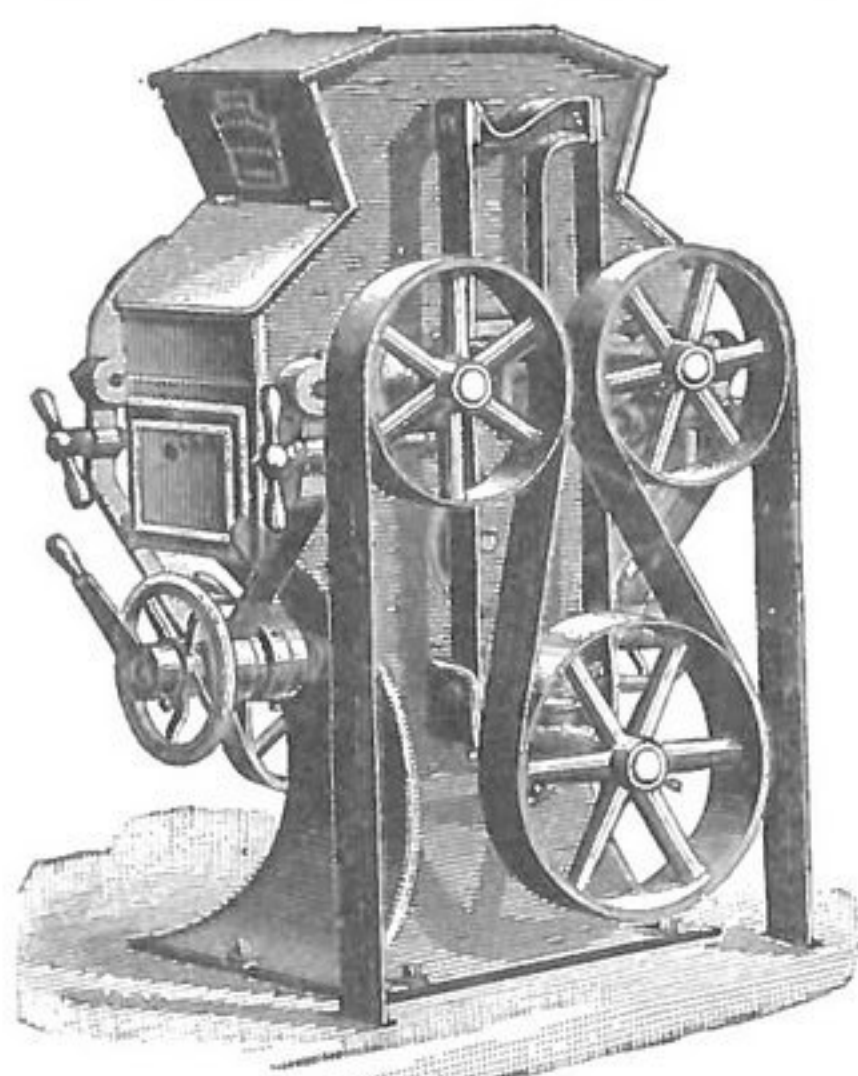
Water Wheel

On Horizontal Shaft. Saves cost, annoyance and loss of power incident to use of gears. Affords more available power from water applied at full or part gate than any other. The cheapest, best and most desirable Water Wheel yet produced.

EFFICIENCY, ECONOMY and EXCELLENCE FULLY GUARANTEED.

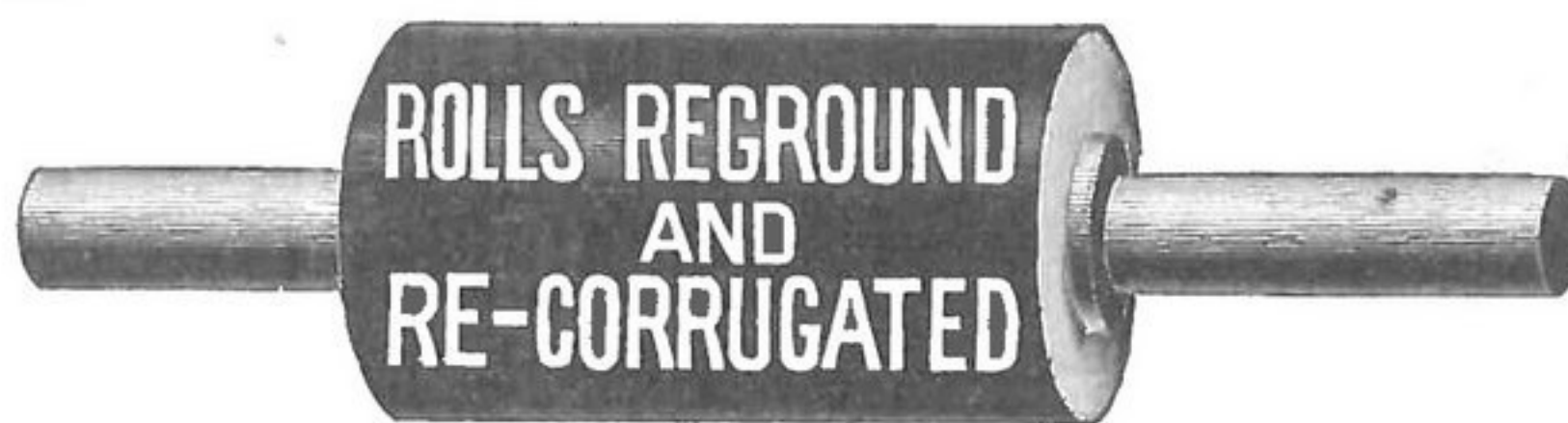
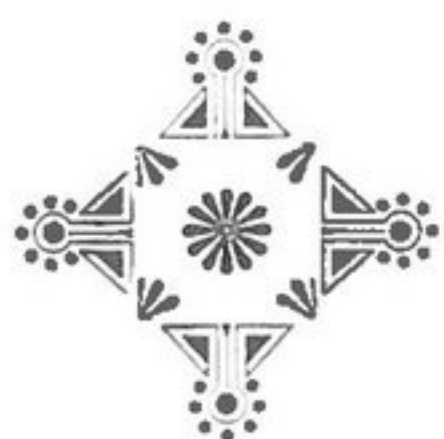
Humphrey Machine Co

KEENE, - - N. H.



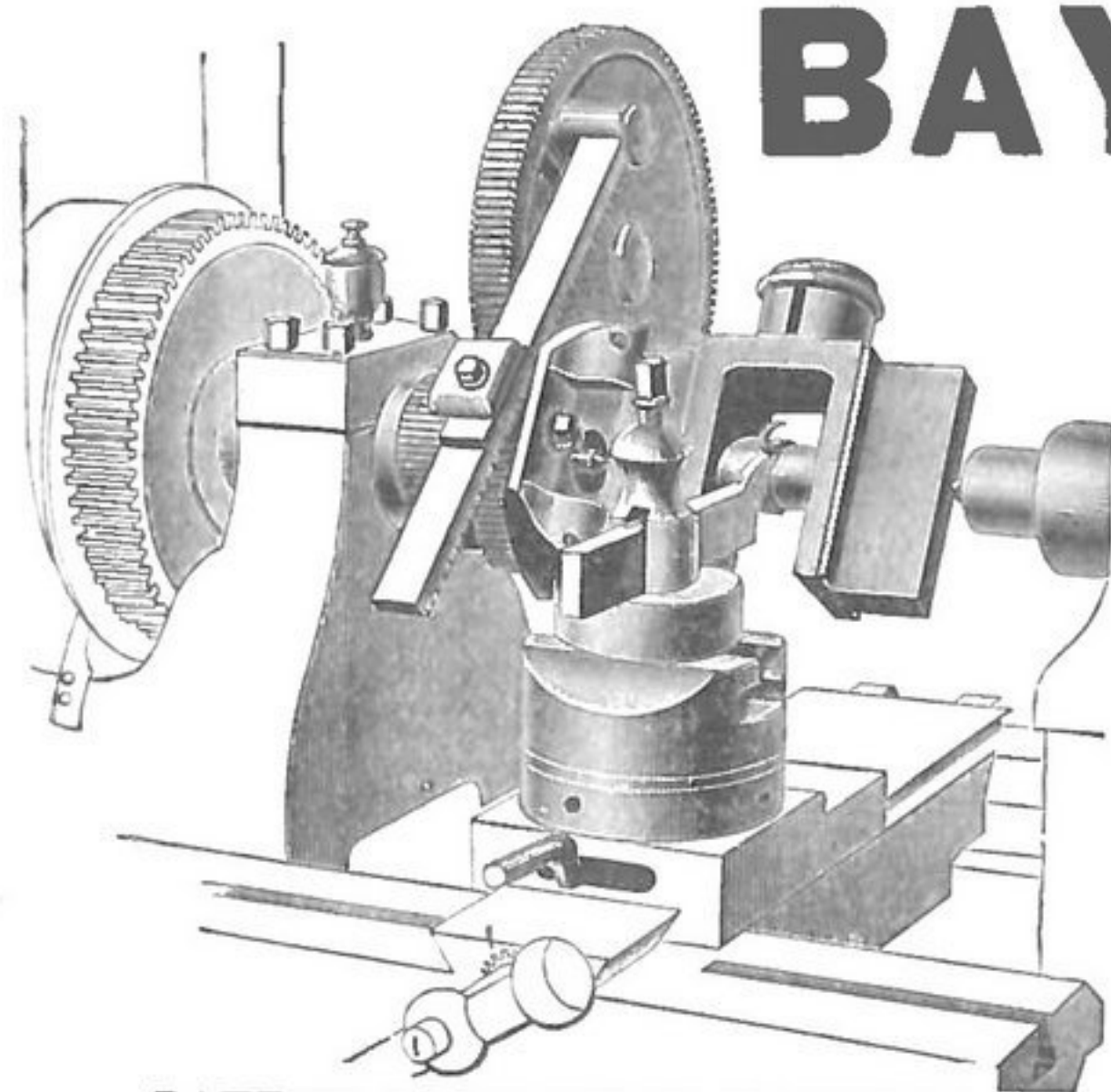
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Flour Mills. Corn Mills. Hominy Mills.
Unparalleled Results.



By the "Keystone" Roll Grinder, Manufactured by Ourselves. The only machine that will Grind Rolls Absolutely True.

ADDRESS THE J. B. ALLFREE CO., 76 to 78 Shelby Street, INDIANAPOLIS, IND.



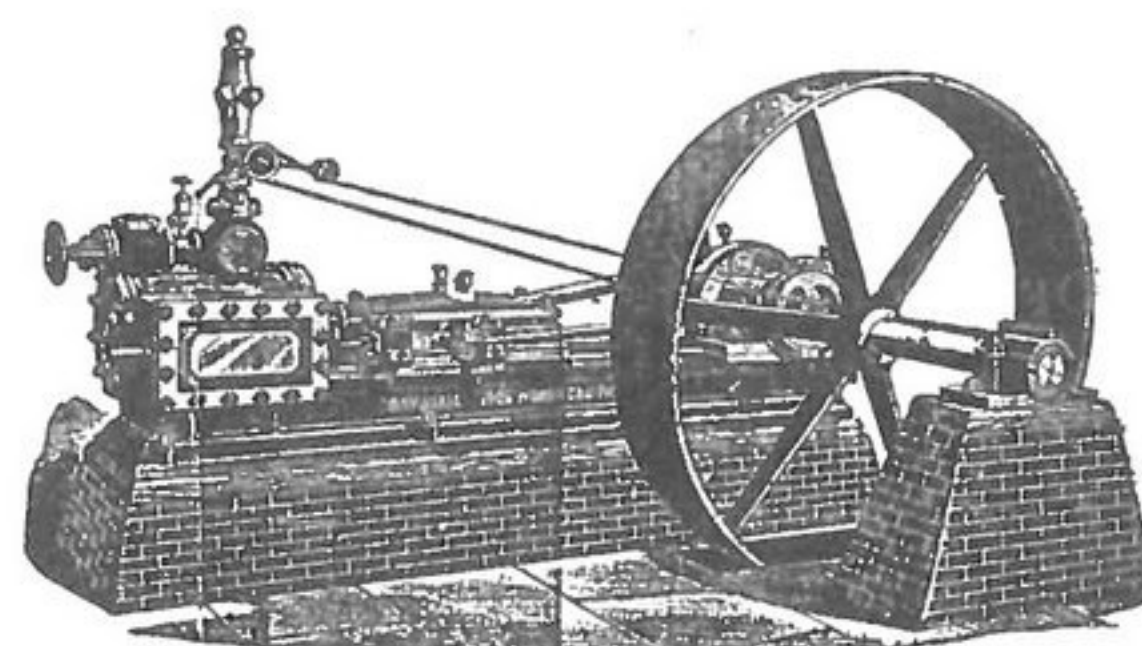
PATENT CROSS-HEAD MACHINE.

BAY STATE IRON WORKS

— MANUFACTURERS OF —

Engines, Boilers & Hoisting Machines

Also the Patent Cross-Head Machine and Acme Cube Pipe Torgs. We make either Center or Side Crank Engines, on same bed. Make engines from 5 to 250 Horse-Power. Have over 3,500 Engines and Boilers and over 1,000 Hoisting Machines in use, and all giving good satisfaction. Send for Catalogue and Prices.



HORIZONTAL ENGINE.

Noble & Hall, Box 462, Erie, Pa.

OFFICE OF CASE MANUFACTURING COMP'Y COLUMBUS, OHIO.

The Case Roller Mills. Over 14,000 Pairs in Use.

PLEASE READ OUR DESCRIPTION OF THEM, EVERY STATEMENT OF WHICH IS ABSOLUTELY TRUE.

PLEASE READ WHAT MILL OWNERS SAY ABOUT THEM.



The accompanying cut is a correct illustration of our latest improved Four Roller Mill. For fine work, great durability, simplicity, and general excellence, they stand "head and shoulders" above all others.

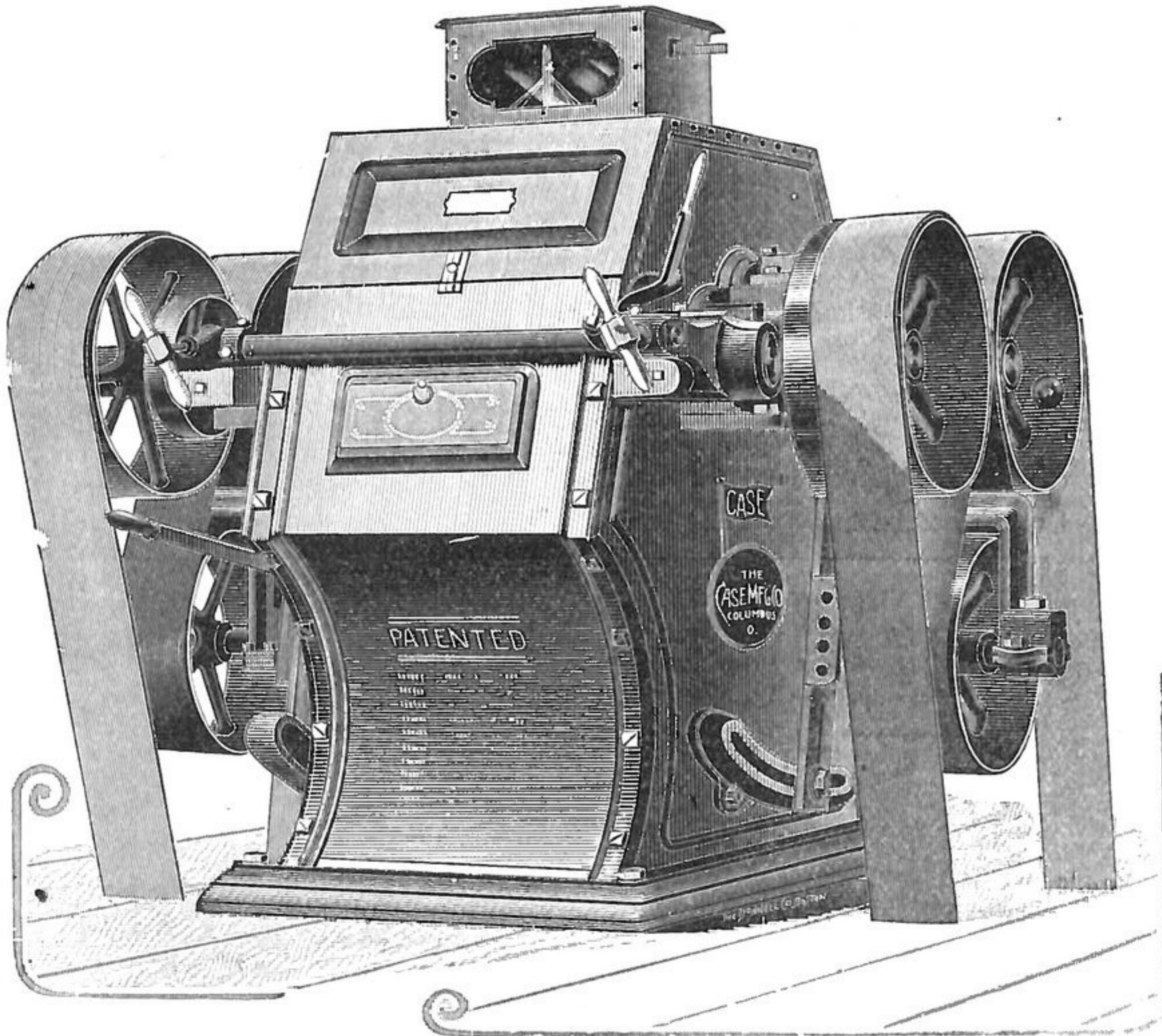
The frame is of iron with a heavy iron base.

The wood-work in top is of select cherry and black walnut, carefully shellacked and varnished.

The handles of adjusting screws and levers are finely nickel plated.

The joints are tight and dustless.

The adjustments easy, simple and perfect.



The roll bearings are wide and finely babbitted.

The belt drive is positive—no little short belts to slip.

The door for examining stock is a great convenience.

The arrangement for leveling rolls, simple and accurate.

The rolls can be thrown apart their entire length by one movement of the lever, and brought back again to original position, requiring no re-setting or experimenting.

Each machine is provided with our AUTOMATIC VIBRATING FEED, which requires no attention, and never fails to spread the feed the entire length of the rolls.



Please Read These Testimonials.

LITCHFIELD MILLING CO., MANUFACTURERS OF FLOUR. }
LITCHFIELD, ILL., Sept. 14, 1889.

Case Manufacturing Co., Columbus, Ohio.

GENTLEMEN: We are in receipt of your favor of the 11th inst., and in reply would say we have twenty CASE AUTOMATIC FEEDS on our Dawson and Allis Rolls, and we are greatly pleased with them. We have tested the Feeds thoroughly on different materials, and find they work as well on bran and germ and other soft materials, as they do on middlings. We have derived great benefit from the use of them, and can cheerfully recommend them to the milling fraternity.

Yours truly,

J. C. EDWARDS, General Manager.

OFFICE OF A. J. MILLER, PROPRIETOR WHITE ROSE MILLS. }
DEALER IN FLOUR, GRAIN AND MILL FEED. }
METAMORA, IND., Nov. 19, 1889.

Case Manufacturing Co., Columbus, Ohio.

GENTLEMEN: Your Feed arrived O. K., and placed it in working order in a very short time. You have furnished me a daisy Feed. After regulating your Feed, it needs no more attention. It pays for itself in one week over the "Roller Feed" in cleaning up the

stock, and also insuring the superiority at same time. I forward you the amount of bill.

Yours truly, A. J. MILLER.

TREZEVANT, TENN., Feb. 27, 1889.

The Case Manufacturing Co.

GENTLEMEN: We have five double stands of Rolls with Roller Feeds on all of them. A short time ago one of your agents induced us to try one of your Automatic Shaker Feeds. We find that it works much better than the Roll Feed, distributing the material the whole length of the Roll. We heartily recommend your feeds to any one wishing to put in new machinery.

Respectfully yours, FUQUA, HARRIS & CO.

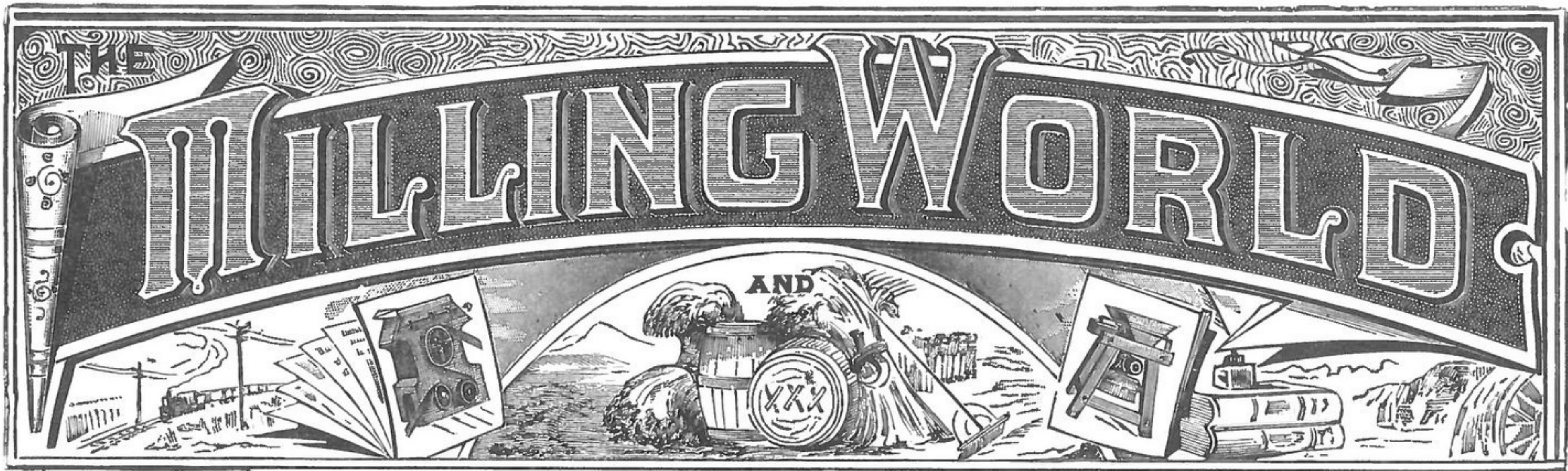
W. C. MANSEFIELD & CO., MERCHANT MILLERS. }
CLEVELAND, TENN., Aug. 29, 1889.

Case Mfg. Co., Columbus, O.

GENTLEMEN: If we were to build a hundred mills, we would not permit any other than the "CASE ROLL" to enter them. They are the best roll on earth.

Yours truly,

W. C. MANSEFIELD & CO.



CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY MORNING.

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THE English syndicate failed to capture the 8,000-barrel C. C. Washburn flouring-mill plant in Minneapolis, after all, and the plant will be operated for five years by Washburn, Crosby and Company. Evidently there are still men in Minneapolis who believe that milling in that town will be profitable in the future.

KNOW all men by these presents that we have gone out of the prophecy business. A year ago we predicted that immigration into the United States for the fiscal year would be less than 200,000. The prospect indicated that. The result was an immigration of 451,219, against 438,619 for the fiscal year ending with June, 1889. Our prophecy is a distinct failure. The only other prophecies we can recall that equal it in failure are those of Prognosticator Prime, "Bradstreet's" and one Chicago farming journal on crops, and Wiggins and Greely on the weather. We quit.

"Free-trade is the enlightened policy of Great Britain. In that country no sane person would for an instant propose the levying of a tariff on importations that would put a burden on the poor consumer. That crowning folly is left to the United States and other protectionist countries," shrieks the free-trader. That is the theory. What is the fact? According to British governmental records, out of \$99,855,955 collected by Great Britain last year as import duties on foreign merchandise, the British workingman paid no less than \$71,262,015 upon only four articles, tea, coffee, tobacco and dried fruits, while the British aristocrat paid but \$28,593,940 upon everything else dutiable, including expensive spirits and wines. This is a wonderful exhibit of the British tariff system, and it is a system directly opposed to that practiced in the United States. No American is narrow-minded enough to accuse Great Britain of a disregard of the poor man in her tariff, but it would be considered a gross injustice to American workers to tax them for tea and coffee, tobacco and other imports to the same extent that Great Britain taxes British laborers by duties on things which she can not raise at home. "Free-trade England" is a poor phrase to conjure with. Necessity and environments determine England's fiscal policy.

EUROPEAN manufacturers continue to show their inconsistency in their views of American tariffs. They are holding great meetings to "protest" against proposed changes in the tariffs of the United States. In one breath they assert that the changes here mean ruination for English, German and other European industries, as the increased duties will shut their goods out of the American markets, and in the next breath they assert that the changes proposed will forever make it impossible for the United States to export manufactured wares, as the increased costs will make American wares too high to gain or hold a foreign market in competition with European wares. We can easily understand the first assertion of our European protestants, but their second assertion does not concern us in the least. We aim first to make all the goods we can consume at home. When we have really ceased to import manufactured wares, it will be high time to handle export questions, and then we shall

show our capacity for competition. Naturally the neighboring Europeans dislike to lose the rich American markets. We do not believe they would object to the highest tariffs we might impose, if we were really manufacturing a surplus all along the important lines and desired to export it. In that case they would like to see us placing ever higher and higher duties in the way of our own export. At present their consuming desire is to hold our markets, to make for us what we ought to make for ourselves, and to draw from us the gold that ought to be utilized in upbuilding our own industries rather than those of foreign countries. Hence their "protests" and their lachrymose inconsistencies.

BRITISH journalists have been slow to learn some things. It is the true British way to learn slowly. Nevertheless they are learning some painful lessons, at very great expense, after years of watching and believing, hoping and fearing, trusting and losing. British investors have been pouring their hoards into India, Australia, Canada, Mexico, South Africa and the Argentine Republic, hoping to receive large returns in short order and to secure permanent investments. Time and again, trusting in booming exaggerations that showed their true character in every line, they have lost, and they have usually failed to learn in the losing. Indian wheat phantoms lead them to one costly dance, Canadian wheat phantoms to another, Australian wheat phantoms to another, Argentine wheat phantoms to another, and so on year after year. It has been loss and failure all along the line for them. Their main object has been the emancipation of Great Britain from dependence upon the United States for a supply of wheat. That emancipation is as far as ever from realization. Great Britain still needs American wheat. British enterprises in other wheat-growing countries are proving unprofitable. The journals of England are beginning to distrust, to criticize, to ridicule the booming of the lands in which British capital has been invested. Manitoba receives a sarcastic lashing from an English milling journal. The London "Standard" criticizes the Argentine Republic in this wise: "After all that has been said in the Argentine Republic of the 'mammoth maize crop,' it turns out that the yield is much less than it was last year, and prices have gone up sufficiently to stop exports. Indeed, fears are expressed as to the quantity left in the country being sufficient for the home demand. The wheat crop, too, is much smaller than it was supposed to be, exporting, which was expected to go on until October, having ceased. It is always so in the Republic. Inflated reports, intended to convey an impression of great prosperity, give place year after year to confessions of scarcity." Similar comments are made on other wheat-growing lands, and altogether it looks as though the British journals had at last got their eyes opened to the true nature of wheat-growing and other booms designed to excavate British gold from the coffers of the owners. Doubtless the knowledge they have acquired will result in the movement of larger sums of British capital to the United States, where profound peace, established institutions, increasing population and great natural resources promise solid, profitable and safe investments.

The DAWSON ROLL WORKS CO.

FOUNDERS & MACHINISTS,

—MANUFACTURERS OF THE—

Dawson Roller Mills

—AND FURNISHERS OF—

CHILLED IRON ROLLS

WITH DAWSON PATENT CORRUGATION.

ALL STYLES OF FLOUR MILL ROLLS RE-GROUND AND
RE-CORRUGATED WITH ANY FORM OF CORRUGATION.

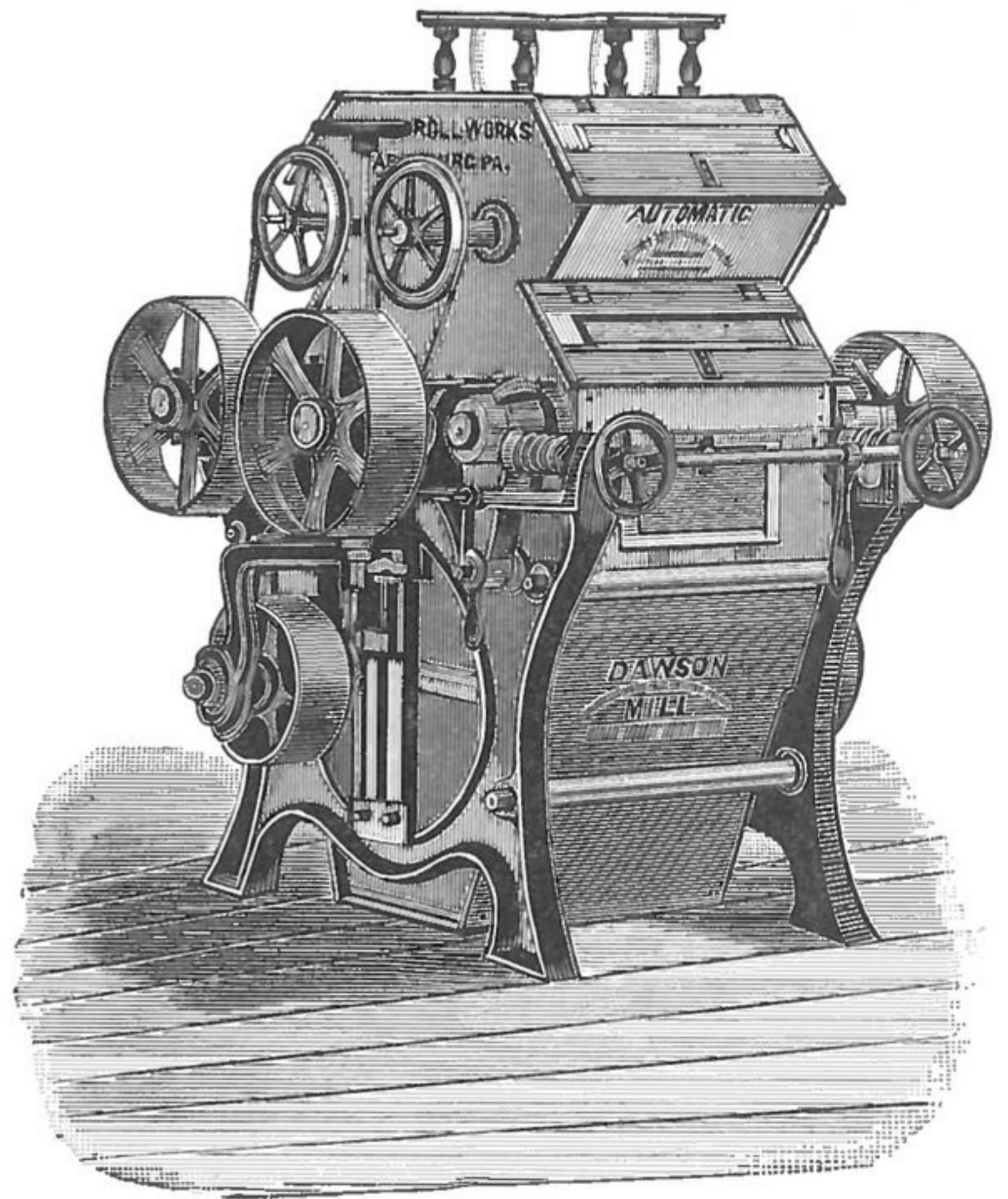
We have had large and extended experience in grinding and corrugating chilled rolls for milling, and have one of the largest and most improved plants in the country for this work, which enables us to meet the most exacting requirements of the trade promptly.

ORDERS AND CORRESPONDENCE SOLICITED.

DAWSON ROLL WORKS CO.

South and Short Streets,

HARRISBURG, PA.



BEST STEEL SAFETY MADE FOR
\$35

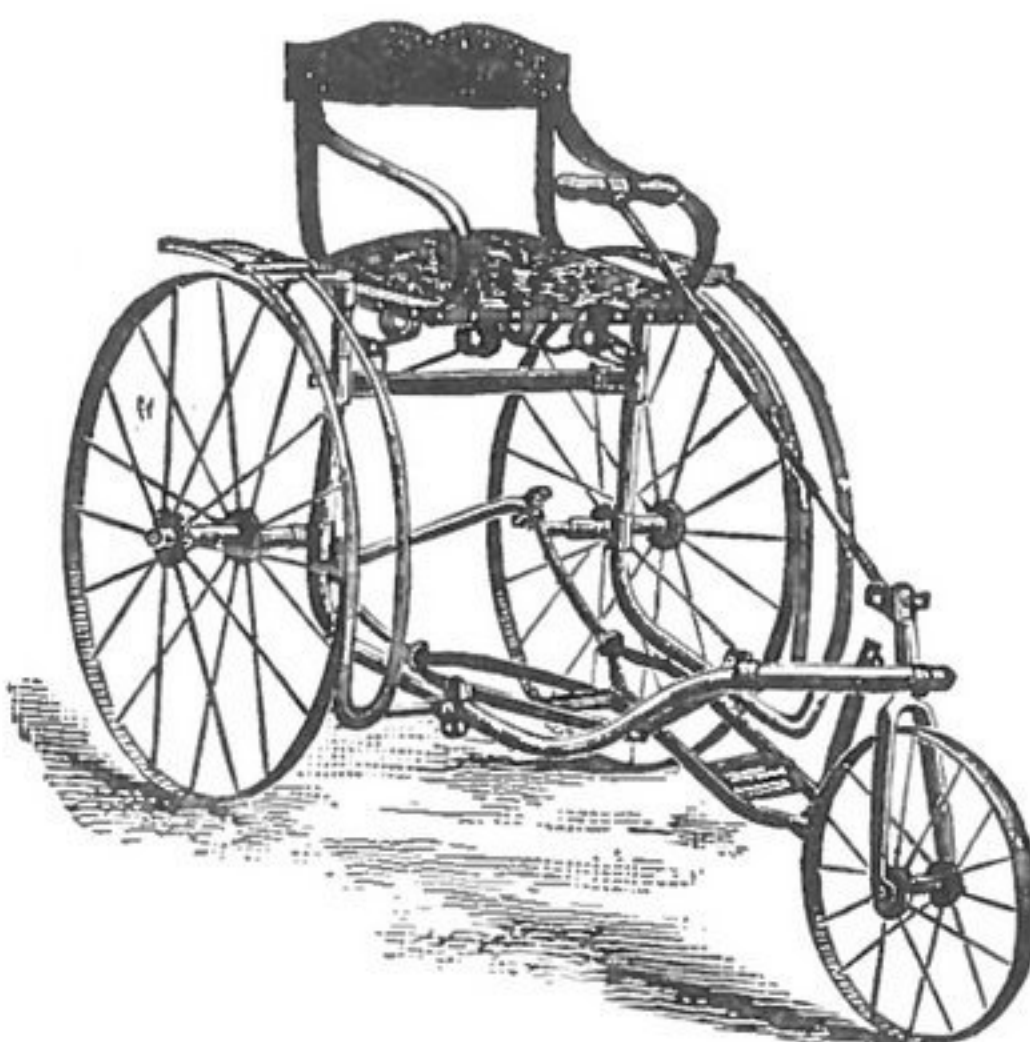
Easiest LADIES' Tricycle Known

Our Tricycles the Only Machine ever Recommended by Physicians for Ladies and Girls of a Delicate Constitution.

THE BUFFALO TRICYCLE CO.

Manufacturers of Ladies' and Girls' Tricycles, Ladies' and Boys' Safety Bicycles, Etc., Etc.

640 Linwood Ave., **BUFFALO, N. Y.**
SEND FOR CATALOGUE AND PRICES.



L. L. WHITLOCK,
Advertising Agent

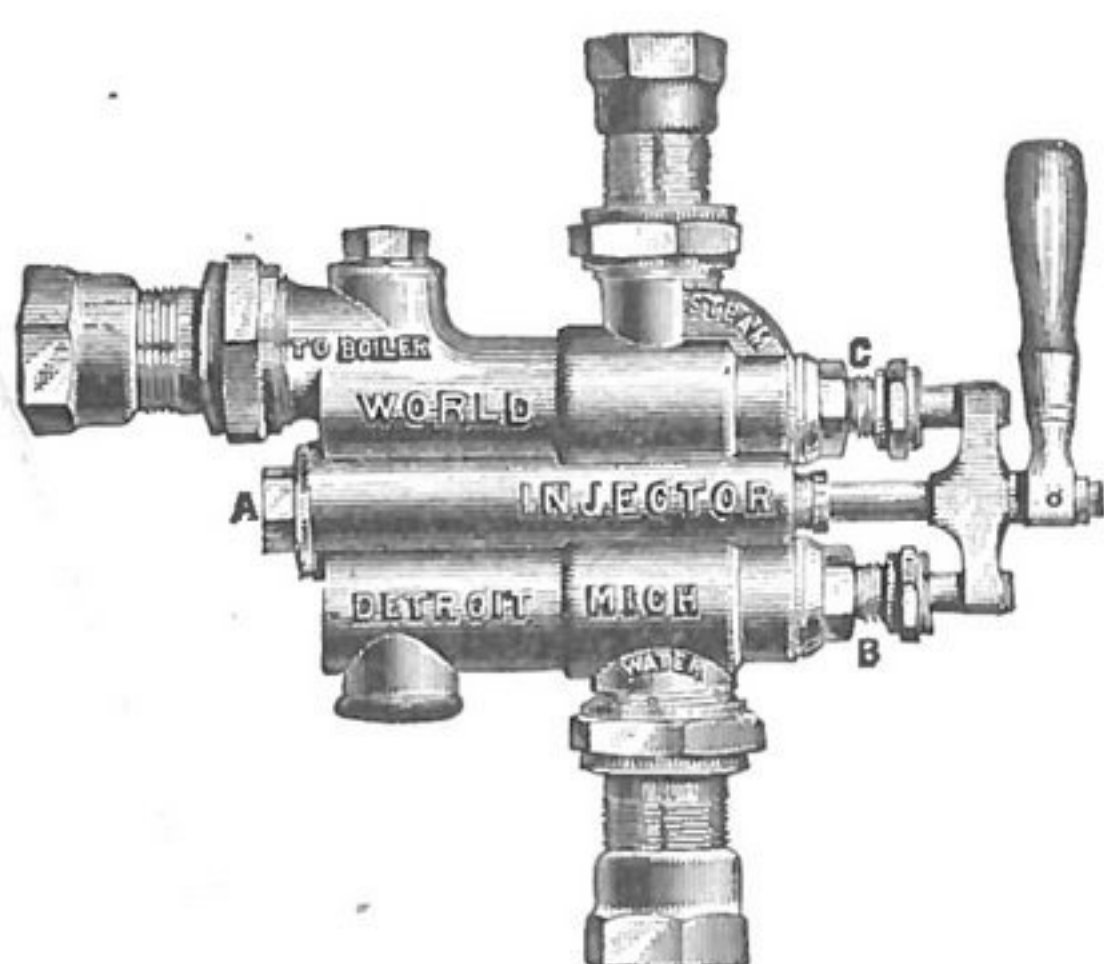
FOR MANUFACTURERS.

TRADE JOURNALS A SPECIALTY.

P. O. DRAWER 5323. *Boston, Mass.*

As Agent for Advertisers instead of Papers, I obtain the Best Rates Possible for my Customers.

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WITH WHICH THIS PAPER IS PRINTED
IS MADE BY THE
QUEEN CITY PRINTING INK CO.
CINCINNATI, O.



THE Best is the Cheapest. Whenever you want a Boiler Feeder that will prove reliable under all circumstances, buy the **WORLD** Injector. It is absolutely the simplest and safest to operate and handle of any injector now on the market, **FOR** it is operated by a single lever only. In whatever territory you find these reliable World Injectors on **SALE** they are always guaranteed by the seller.

GOLD is good in whatever part of the world you may travel, and the "**WORLD**" Injector is worth every **DOLLAR** it will cost you. Catalogue containing Price List, valuable tables, and useful facts, figures and information **SENT** to engineers, machinists, and all interested in a perfect working injector, post-paid, upon application, **FREE**

AMERICAN INJECTOR COMPANY,

175 Larned Street West, DETROIT, MICH.



PUBLISHED EVERY MONDAY. OFFICES: { Corner Pearl and Seneca Streets,
Buffalo, N. Y.
McFAUL & NOLAN, - - - PROPRIETORS.
THOMAS McFAUL, JAMES NOLAN.

SUBSCRIPTION.

In the United States and Canada, postage prepaid, \$1.50 Per Year, in advance; remit by Postal Order, Registered Letter, or New York Exchange. Currency in unregistered letter at sender's risk.

To all Foreign Countries embraced in the General Postal Union, \$2.25 Per Year, in advance.

Subscribers can have the mailing address of their paper changed as often as they desire. Send both old and new addresses. Those who fail to receive their papers promptly will please notify at once.

ADVERTISING.

Rates for ordinary advertising made known on application.

Advertisements of Mills for Sale or to Rent; Partners, Help or Situation Wanted, or of a similar character One cent per word each insertion, or where four consecutive insertions are ordered at once, the charge will be Three cents per word. No advertisement taken for less than 25 cents. Cash must accompany all orders for advertisements of this class.

Orders for new advertisements should reach this office on Friday morning to insure immediate insertion. Changes for current advertisements should be sent so as to reach this office on Saturday morning.

EDITOR'S ANNOUNCEMENTS.

Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trade.

Correspondents must give their full name and address, not necessarily for publication, but as a guarantee of good faith.

This paper has no connection with a millfurnishing house and aims to represent the trade without prejudice, fear or favor.

Address all communications

THE MILLING WORLD,
BUFFALO, N. Y.

Entered at the Post Office, at Buffalo, N. Y., as mail matter of second-class.

SITUATIONS WANTED.

Advertisements under this head, 25 cents each insertion for 25 words, and 1 cent for each additional word. Cash with order. Four consecutive insertions will be given for the price of three.

SITUATION WANTED.

Head miller with over 20 years experience want to make a change this spring. Address, A. MILLER, 67 Weaver Alley Buffalo, N. Y. Ad-4t

SPECIAL ADVERTISEMENTS.

Advertisements of Mills for Sale or Rent, Partners Wanted, Machines for Sale or Exchange, etc., etc., cost 1 cent per word, for one insertion, or 3 cents per word for four insertions. No order taken for less than 25 cents for one insertion, or 50 cents for four insertions. Cash must accompany the order. When replies are ordered sent care of this office 10 cents must be added to pay postage.

FOR SALE.

Water-power grist and feed mill for sale, at wharf and railroad, near New York. Established business, \$4,000. J. W. ATWATER, 150 Broadway, New York. 1720

FOR RENT.

Clinton Mills, at Black Rock, Buffalo, for rent on reasonable terms, recently repaired and put in good order. Apply to CHAS. DANIELS, over 311 Main Street, Buffalo, N. Y. 6tf

SITE FOR A STEAM FLOURING MILL.

A first-class site for a Steam Roller Flouring Mill at Grant, Ashland P. O., Mich. Correspondence solicited by the GRANT IMPROVEMENT ASSOCIATION, L. E. Mills, Cor. Sec'y. 2326

WANTED.

A company being formed with large capital to operate flouring mill in vicinity of Washington and Baltimore, require a practical miller and first-class manager, who can command ten to twenty-five thousand dollars. For particulars address, HON. CHAS. S. BAKER, House of Representatives, Washington, D. C. 2326

FOR SALE.

A cheap and desirable mill property, consisting of a Grist Mill, Saw Mill, two dwelling houses and all other necessary buildings. The mill has a good custom trade, nicely situated in the borough of New Buffalo, Perry County, Pa. For full particulars call on or address JEFFERSON WADE, New Buffalo, Pa. 233

MILL MACHINERY FOR SALE.

One No. 0 Standard Combined Separator, Smutter and Brush Machine; new, best make.
One 20-Inch Under-Runner Portable Mill, French Buhr Stone, capacity 10 to 12 bushels per hour; new, best make.
One 14-Inch Vertical Feed Mill; best make, new, a bargain.
One No. 6 Dustless Separator; new, a bargain.
One No. 1 Full Rigged Combined Dustless Separator; new, a bargain.
Four Corn Cob Crushers, right or left hand, driven from above or below, best make; capacity 40 to 60 bushels per hour.
Three No. 1 Corn Shellers, capacity 200 to 300 bushels per hour; new.
One No. 2 Purifier. New. Best make. A bargain.
One 20-Inch Portable Mill.
One 18-Inch Double Gear Portable Mill.
For particulars address, FRANK SMITH, care of THE MILLING WORLD, Buffalo, N. Y. 5tf

FARMERS the world over are finding the present season a most fickle and unreliable one for crops. The unusual conditions appear to affect grain and fruit growing countries most seriously.

SOUTH Australian wheat-growers and millers are agitated over the deterioration of Australian wheat. They do not know whether to charge the decrease in gluten to the exhaustion of the soil, or to the sowing of the same kind of seed year after year. If it be exhaustion of the soil, fertilization will cure the evil. If it be the sowing of the same seed repeatedly, a change of seed will effect a cure. The government of Australia will take a hand in the matter, to determine what the trouble is and to remove it.

THERE is nothing like exactness, even in Chicago. One journal in that town asserts that "the Italian Government has forbidden emigration to the Argentine Republic." It would be pleasant to know what right the Italian Government has to forbid emigration. Another Chicago journal, the great big "Tribune," giving an account of a police raid on a pool-room, says: "Even the operators were dragged from their chairs, and the telegraph instruments clicked in silence." Very good is "clicked in silence," and doubtless the editor yelled in silence when he read his bull the next morning.

MILLERS will not object to the making of such arrangements as shall equalize commercial matters between the United States and the countries of South America. American flour is inequitably treated by Cuba and Brazil, and everything should be done by the United States Government to secure fair treatment for the products of American mills. This big country is so good-natured that every insignificant nation on earth feels safe in taking a whack at it. The time for new adjustments is at hand. If the South American Republics expect us to take their products, they should give us fair play.

MANITOBA boomers, headed by the "assistant president" of the Canadian Pacific Railway, are claiming for Manitoba this season a crop of 17,000,000 bushels of wheat, "of which 12,000,000 bushels will be available export." Of course there is not that amount of wheat standing in the province, and there never will be a year when the present acreage, about 750,000 acres, will yield 17,000,000 bushels of wheat. We should like to see a big crop in Manitoba, but we fear that the same elements that are reducing the prospects of wheat in Minnesota and the two Dakotas will not observe the imaginary boundary between those States and Manitoba, but will destroy the Canadian grain quite as freely as the American grain. The reports from the northern frontier point to anything but a bumper crop, and doubtless the tar is the same on both sides of the line that separates Uncle Sam's realm from Aunt Vic's Dominion.

IMPORTANT industrial movements in France may be looked for. That compact Republic seems to be in the hands of leaders who lead. When a thing is required to be done, it is possible to have it done promptly. Recently the labor question has been under consideration, and it is announced that the parliamentary commission, appointed to remedy the most crying evils of workingmen's conditions, according to the suggestions of the recent Conference in Berlin, has made the following decisions: Women after confinement shall only be admitted to work after a lapse of four weeks. No women shall be allowed to work underground. The hours of labor underground for children between 13 and 18 years shall be limited to eight a day, and their presence there must not exceed 10 hours. The time to commence and to quit work shall be posted in conspicuous places. The government appoints the inspectors, of whom there are one general and several local and departmental. The new regulations will not take effect until March 16, 1892, when the last commercial treaty expires. When those treaties are out of the way, French movements will doubtless become important.

ELIMINATING THE GERM.

Says a cotemporary: The germ contains some very active soluble albuminoid ferments, and it is a well-known fact that wherever such soluble albuminoids are present among the starch they will, with the aid of moisture and warmth, which are always present in stored-up flour, cause a chemical degradation by inducing hydration. They will convert the starch into dextrin and maltose sugar, chiefly dextrin. Now, as dextrin is a very stable body, and as the yeast organism has but very slight action on it, it is clear that the presence of such an inert body in the flour, or in the dough and in the bread, can not be conducive to the digestibility of the latter. It is the unimpeded action of the yeast organism on the starch cells that produces a good, digestive loaf, if the gluten be abundant and of good quality. And it must be borne in mind that the soluble albuminoids contained in the germ and in the bran do not only degrade the starch, but that they also degrade the insoluble albuminoids, the gluten and fibrin, that is, they injuriously affect the quality of the gluten, which plays such an important part in the panification process, by inclosing the carbonic acid gas bubbles which have been formed through the agency of the yeast organism. It is a well-known fact that during wet years the wheat contains much more soluble albuminoids than in dry years, although the total quantity of gluten in those wheats is generally larger than that contained in wheat from dry years. Nevertheless, such wheats always make worse flour, probably on account of the degrading action of their excess in soluble albuminoids.

As it has been lately stated that Professor Graham did not class the germ together with the bran as a body that should be eliminated, it will be well to repeat here the following passages from his famous Cantor lectures. He said: "What is it that we theoretically conceive to be desirable to obtain in the process of converting grain into the flour that is required for bread-making? Well, I think in the first place that no system of milling, whether it be a new method, or with stones, as has been the immemorial custom, and is still the chief method of grinding, can be perfect, unless the germ of the corn has been removed, and for this reason, although the germ bears a comparatively small ratio to the total weight of the corn, still it is an important factor. It contains very active albuminoid ferments, and, therefore, if that germ be ground up with the remainder of the flour, it must, to that extent, injure the value of the flour for bread-making purposes. The next point that occurs to me, as a chemist, that should be attainable in any good system of milling, is the thorough removal of the bran; not even the slightest quantity of bran should be allowed to remain in the flour when prepared, and for that reason I pointed out to you that there is in it a soluble albuminoid ferment, called cerealin. This is a very active diastasic body. An infusion of cerealin or an infusion of ordinary bran would give you a quantity of soluble ferments that will rapidly attack the starch cells and in presence of water hydrate the starch into maltose and dextrin, giving a large quantity of dextrin. That is another reason why I consider that no system of milling is perfect, whether it be done by stones or whether it be done by rollers or disintegrators, if it does not fulfill these two conditions, the removal of the germ and the removal of the bran."

It is curious to note that Professor Graham puts the germ before the bran. Most millers and bakers are now satisfied about the necessity for removing the bran as perfectly as possible, but some of them still doubt the necessity of the elimination of germ. So far the chemical aspect of the question, but when we come to investigate the practical reasons which have induced millers to eliminate the germ as well as the bran during gradual reduction, then we shall find that they have no choice in the matter, that they are, at least at present, compelled to eliminate the germ. The success of modern gradual reduction is based chiefly on a more nearly perfect bran separation, because bran contains, of the various soluble ferments which are contained in the wheat berry, the most active one. The more free a flour is of bran, the more durable will it be; it will have a better

color, and it will be more digestive, because neither its starch nor its gluten has been degraded, and nothing impedes the proper working of the dough during fermentation. Now this better bran separation is chiefly accomplished through the agency of the roller-mills. Fluted rolls during bran-cleaning and smooth rolls during the reduction of middlings, as now generally used, enable us to reduce the flour-kernel of the wheat-berry to flour without pulverizing the bran, and we are thus able to effect with them, and with the assistance of purifiers and dressing-machines, a comparatively perfect bran separation.

But, at the same time, as is well known, we have also, involuntarily perhaps, eliminated the germ during the reduction of the coarser middlings on smooth rolls, because during its passage between the rolls the germ has been flattened and enlarged, and thus has been passed over the sieve of the purifiers or dressing-machines together with sharps or tailings of similar size. It is generally assumed that in low-grinding the germ is ground up in the flour. That is only partly correct. A great amount of germ is thrown off, even in low-grinding, over the tail, or through the tail-sheets of the respective reels, and thus it passes into the sharps or pollard. The amount of germ which is thus rejected in stone mills is not inconsiderable, and I believe it amounts to as much as 50 per cent. of that eliminated by means of rollers. The germ elimination is an almost unavoidable consequence of the use of smooth rolls. But nevertheless these latter owe their success chiefly to their bran-preserving tendency; it was long after their merits as bran-preservers had been recognized that it was discovered that they also eliminated the germ. If it had been found that such an elimination was disadvantageous and unprofitable, there is no doubt that, long before this, milling engineers would have found some means for incorporating the germ with the flour during gradual reduction. Of course it is quite possible to reduce the large germ middlings so as to pulverize the germ, for instance on stones, although probably more than one reduction would be required. But what would be the result? Nothing but a bad-colored flour and a bad loaf, which could in no way compare, certainly not in taste, with that produced from the same middlings on rollers, where the germ is eliminated.

A FIERY JULY.

July was a fiery month in the United States and Canada. The total losses for the month were about \$14,723,500. The milling interest contributed only \$139,000, while the iron-working and allied industries contributed \$711,000, and the wood-working and allied interests threw in the enormous share of \$2,187,000. Notwithstanding the heavy losses for July, the total for the first seven months of 1890 is below that of 1888 and 1889, as the following table shows:

	1888.	1889.	1890.
January.....	\$16,040,000	\$6,898,700	\$9,179,300
February.....	11,213,500	12,800,000	7,387,025
March.....	9,918,100	10,912,000	8,466,300
April.....	11,326,350	15,987,000	8,285,520
May.....	9,188,500	9,615,300	8,838,100
June.....	9,594,400	7,755,000	5,655,000
July.....	10,508,470	11,020,500	14,723,500
Total.....	\$77,789,320	\$75,288,500	\$62,534,745

MAKE AN OAT OF THIS.

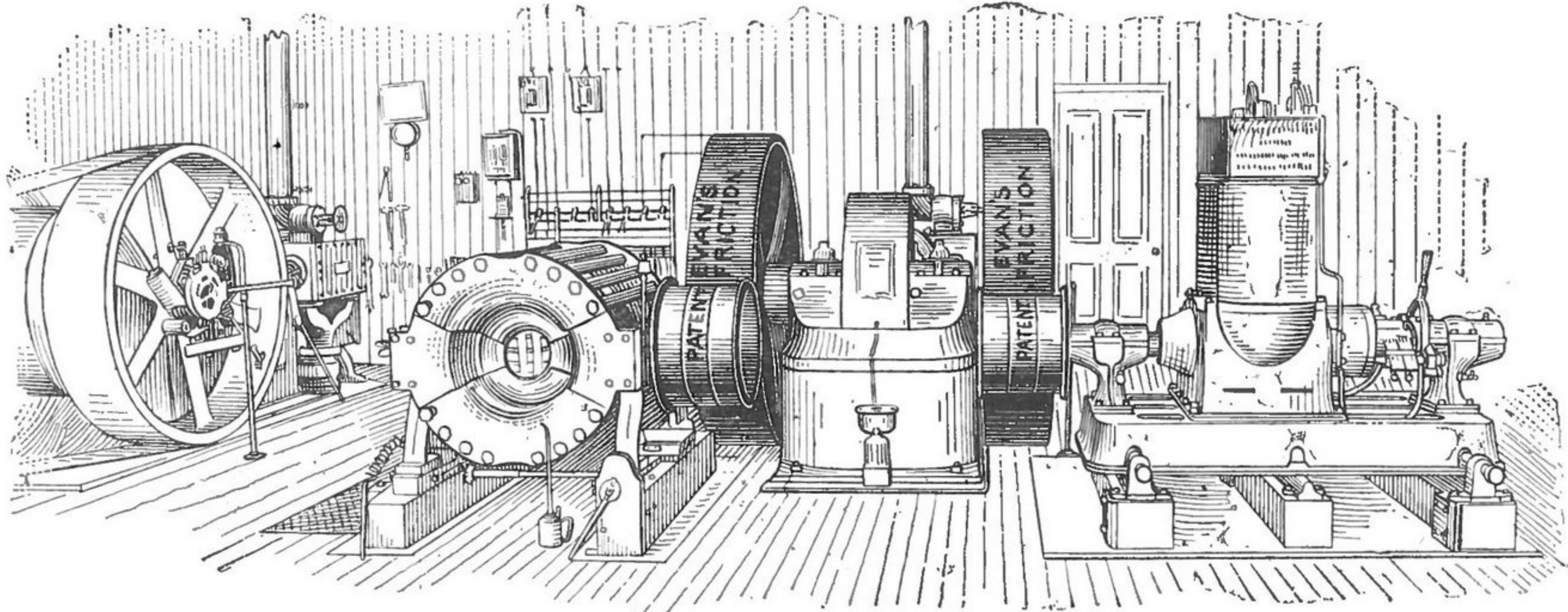
Speaking of oatmeal, an exchange remarks that a very good drink is made by putting about two spoonfuls of the meal into a tumbler of water. The western hunters and tappers long ago considered it the best of drinks, as it is at once nourishing and satisfying, yet unstimulative. It is popular in the Brooklyn Navy Yard, 2½ pounds of oatmeal being put into a pail of moderately cool water. It is much better than the ordinary mixtures of vinegar and molasses, with water, which farmers use in haying or harvest field. A wide and long experience, especially in Europe, warrants strong praise of the virtues of oatmeal water as a summer drink for men engaged in hot and laborious occupations. While not yet used by the workmen at all the rolling-mills and blast-furnaces, it is more or less largely drunk by the

rolling-mill, blast-furnace and glass-works men throughout the United States, while in England, Wales and Scotland it is even more popular as a working drink by those engaged in hot and toilsome labors than with workers in this country.

It is far more strengthening to sustain the toiler through continued exertion in a high temperature than the stimulating beers and ales which are frequently, and in some places customarily, resorted to by men in these occupations; while it matters not what heat the workmen must undergo, he may consume any desired quantity of the oatmeal water without any injurious consequence whatever. A little over a half pound of oatmeal to a gallon of water makes this most excellent beverage, which the temperate among foreign iron-workers greatly use, and which they assert much surpasses, as a regular drink, all that can be found in ale, beer or porter, even as regards those particular qualities for which the latter are used by men whose daily employment is in an overheated atmosphere.

AN ELECTRIC LIGHT PLANT.

Herewith is illustrated an electric-light station of the Evans Friction Cone Company, 85 Water street, Boston, Mass. The station is located in Hutchinson, Kansas. The dynamo at the left is a Thomson-Houston "M D" dynamo with a capacity of 50 full arc-lamps, and the machine is fully loaded. The Edison machine is a number 16-720 in-



THE EVANS FRICTION CONE CO.'S ELECTRIC LIGHT STATION AT HUTCHINSON.

candescence lamps. They are both driven from the fly-wheel of an Armington and Sims engine. This plant has been running constantly since January, 1890, and is giving entire satisfaction in every respect. Address the Evans Friction Cone Company for full information.

MILLING PATENTS.

Among the patents granted August 5, 1890, are the following:

James B. Soule, Minneapolis, Minn., No. 433,550, a safety cut-off for grain-elevators.

Lycurgus Lindsay, Humboldt, Kan., No. 433,575, a bolting-reel, comprising the combination of a central shaft, a reel loosely mounted on the shaft, springs rigidly secured to the shaft and connecting the reel to said shaft, rods for moving the reel on the shaft, and means for imparting a reciprocating motion to said rods.

LIVING IN FREE TRADE ENGLAND.

American free-traders have one theory to offer. They are always saying: "Free-trade would help the workingman and make food and all necessary clothing so much cheaper that, though wages should be reduced, real comfort and happiness would be increased, all things being on a sound normal basis." We hardly know what the average free-trader means by "a sound normal basis," but we can size up the "real comfort and happiness" of the English wage-worker in the following quotation from the London "Pall Mall Gazette":

"He and his brother postmen thought the minimum pay

of 18s. per week was too low, and that it was almost impossible for men to maintain themselves on such a small wage." So said the spokesman of the postmen's deputation to Mr. Raikes yesterday. How married men do manage to maintain themselves on that sum we learn from the pathetic letter which has found its way into print from a postman's wife: "First there is rent, 4s. for one large room; six loaves at 4½d., 2s. 3d.; fresh meat for Sunday, 10d.; cuttings for Wednesday to make soup, 4d.; herbs for do., 1d.; meat Saturday, 6d.; bacon during week, 4d.; vegetables, 1s.; 1 pound butter, 1s.; flour, 5d.; rice, 1½d.; treacle, 1½d.; tea, 9d.; cocoa, 3d.; milk, 3½d.; sugar, 4d.; two eggs, 1½d.; cheese, 3d.; jam, 4d.; condiments, 1½d.; coals, ½ cwt. at 1s. 2d., 10½d.; loose wood, 3d.; soap, soda, matches, hearthstone, blacklead, etc., 4½d.; oil, 3d. Husband having so much walking, he wears two pairs of boots per year at 9s. per pair; repairs of same, 5s. 10d., average 5½d. per week; myself, two pairs at 5s.; boots for two children, 10s. per year; repairs, 3s. 10d.—£1. 3s. 10d., or 5½d. per week; insurance of children, 2d.; school fee for one, 2d.; Postmen's Auxiliary Benefit Society, 3d.; Postmen's Union subscription, 2d.; weekly newspaper, 1d. Clothing for self and two children can not be reckoned at less than £2. 10s. per year, or 1s. per week. Balance, ½d. This is how we have laid out our 18s., my husband keeping 1s. for himself, out of which he buys his own private clothes, including shirts and socks. He smokes a

little sometimes, but happily he does not drink. When he can afford it, he goes to the baths, which costs him 3d., as there is no bath-room where we live. So you see, though we are not extravagant, we can not save for old age or even for a holiday, and to buy other articles needed in the house we must do without something mentioned above."

COTEMPORARY COMMENT.

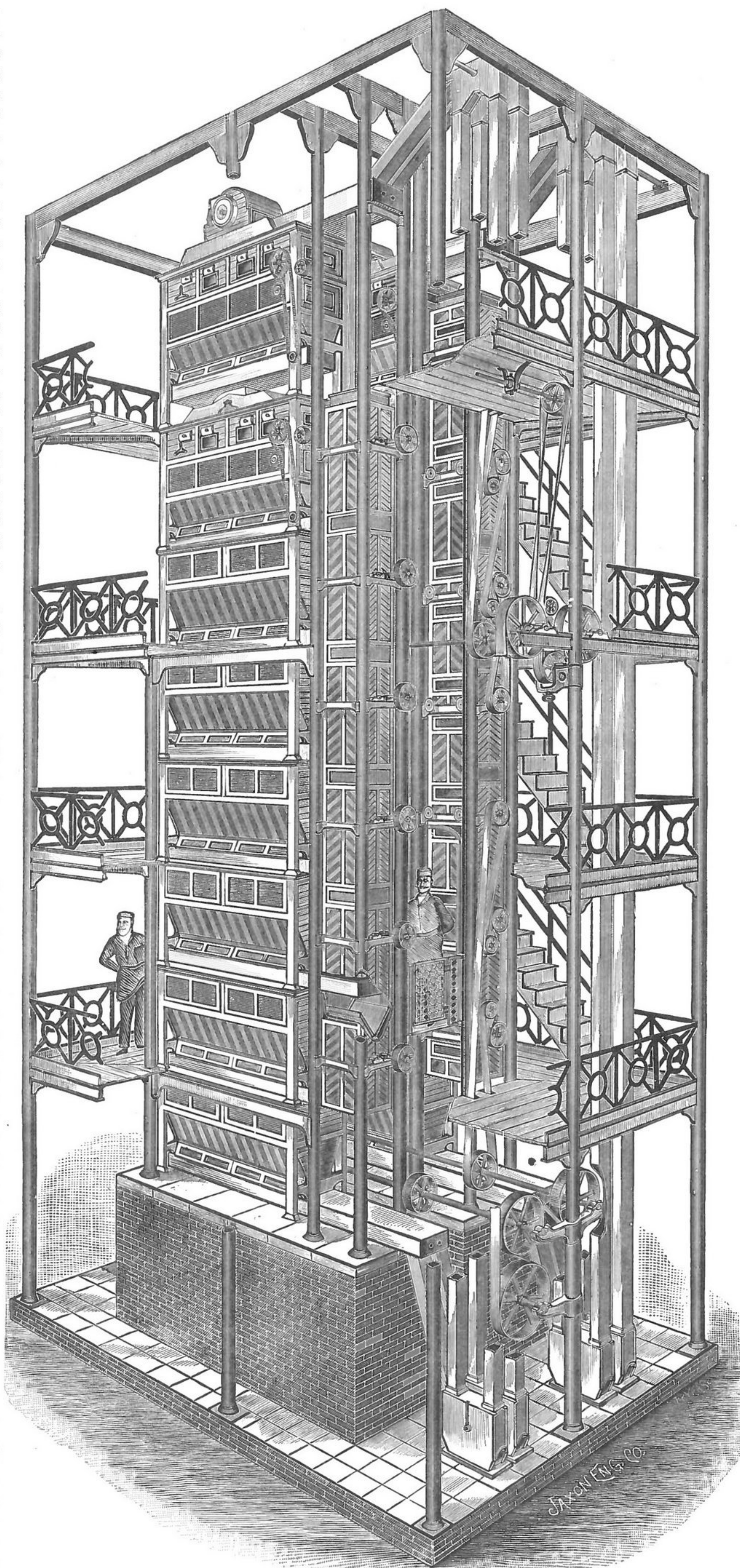
Some mill operatives are constantly looking for some new fakes and schemes that will, by some sort of hook or crook, make this milling all right. Let us say to these fresh hunters that they will never find what they are looking for, especially if they are looking for something to get them there without some expenditure of brain, money or physical force; as it takes one or all of these to make the mill a blooming success.—*St. Louis "Miller."*

A beefsteak, a speckled trout, a cabbage, an apple or a glass of milk does not contain all the ingredients necessary to preserve the human body in perfect health, but we have yet to hear of the crank that would interdict them. Why should the loaf be expected to be the sole reliance of physical health in this day and age when diet has become so varied and the variety is so readily obtainable? The Graham loaf, or whole-meal loaf, does not contain soap, a bath sponge or a tooth-brush, and yet these are necessary to perfect health. There could be no greater fallacy than that one article should constitute the sole diet of the people. We believe that whole wheat meal, Graham or bran-bread, or whatever its designation, is an excellent article of food used in moderation; yet the best scientists of the present day dispute its nutri-

tious qualities as compared with white bread. The point of the whole matter is not what elements unbolted flour or Graham bread contains, but what elements the human stomach can utilize. Magendie's dogs have nothing to do with the question. Moleschott proved conclusively that the average human being can not avail himself of the feeding value of bran. That is all there is in the question, and the person who thinks he is supplying all the needs of his system by eating coarse bread is practicing a fatal kind of self deception.—*Chicago "American Miller."*

A NEW PLAN.

Herewith is an illustration of the new-plan mill developed by Mr. Geo. T. Smith, of Jackson, Mich. As the plan has been fully described in these columns heretofore, it is only necessary to say that its chief aim is to avoid the unnecessary handling of grain in grinding. In this invention the cleaned wheat, after passing through the first-break rolls, drops into a conveyor, which carries it to the shortspout leading straight into the head of the reel below. Here it is scalped in the ordinary way. That part of the product



THE GEO. T. SMITH CONCENTRATED MILLING PLANT.

which is to be ground again is carried by another conveyor to the rolls next below it, and so on, from roll to reel, until the grinding, scalping and bolting are completed. This conveyor extends above the rolls, and its top is open over their entire length, so that no choke can possibly occur at this point. All the spouting is short and direct, and most of it can be reached by the miller as he passes up and down in the elevator; this arrangement increases the safety of the miller at the same time that it lightens the work of inspecting or repairing. By means of the elevator the rolls and reels may easily be examined and regulated at any time. A system of levers and small wire cables makes it easy to throw any or all of the rolls apart at once from the lower floor; and by a similar arrangement the miller will be able to start or stop the whole mill from any floor. The roll-frame, and in fact the entire structure, has been designed with a view to insuring rigidity and practical immobility, so that Mr. Smith is confident that rolls will run more quietly and steadily in this mill than they do on the average grinding-floor today. The inventor says: "We have made an estimate of the power required to drive from 25 to 30 ele-

vators, the number usually required in a mill making the same reductions as mine, and could hardly believe our figures, so large a percentage of the total power did they show to be consumed by the elevators alone. Now the only use of elevators and spouts is for transferring the material from roll to reel and from reel to roll, and if my system practically abolishes them, it is by so much the superior of other existing systems." Mr. Smith says that the invention is not altogether his own, but that he has received many valuable suggestions from his son Frank, who, but 21 years of age, possesses an inventive talent rarely seen. A building has been constructed for temporary use on the east side, adjoining the John Hutchison Manufacturing Company's works, and the new mill will be on exhibition next week. The Jackson "Evening Star" says: "That the invention is a highly important one is conceded by practical millers everywhere, and it is to be hoped that it may realize all that is expected, and actually revolutionize the flour-making system, when Geo. T. Smith may not only become a public benefactor but a millionaire as well."

GREAT WHEAT YIELDS IN FRANCE.

American wheat-growers have never attempted the systematic and scientific culture of wheat. We have repeatedly asserted that the productive capacity of the United States may be almost indefinitely increased, and it will be increased, when supply shall be overtaken by demand. The French wheat-growers have already shown what can be accomplished by intense culture, and the American growers will in the next generation find it necessary to follow the French example. About 30 years ago the French farmers considered a wheat crop quite good when it yielded 22 bushels to the acre, but with the same soil the present requirement is at least 33 bushels, while in the best soils the crop is called good only when it yields from 43 to 48 bushels, and occasionally the product is as much as 55½ bushels to the acre. There are whole countries, Hesse for example, which are satisfied only when the average crop attains 37 bushels, while the experimental farms of central France produce from year to year, over large areas, 41 bushels to the acre, and a number of farms in northern France regularly yield, year after year, from 55 to 68 bushels to the acre. Occasionally even so much as 80 bushels have been obtained upon limited areas under special care. In fact, it is proved that, by combining a series of such simple operations as the selection of seeds, sowing in rows and properly manuring, the crops can be increased by at least 75 per cent. over the best present average, while the cost of production can be reduced by 50 per cent. by the use of some inexpensive machinery, to say nothing of costly machines like the steam-digger or the pulverizers which make the soil required for such special culture. They are now occasionally resorted to here and there, but they will come into general use as soon as humanity feels the need of increasing the agricultural product tenfold.

We commend these facts to those pessimists and alarmists who are predicting the failure of American wheat-growers to keep supply up to demand. There are quite as large yields in the United States, under proper culture or in very rich lands, as those quoted above in France. Those who imagine that the soil of the United States will soon be unequal to the task of producing enough wheat for domestic consumption should compute what the yield will be when the American alleged average yield of 11 to 15 bushels to the acre shall be, by intense culture, swelled to 30 and 40 bushels. There is no doubt the increase will be made. The soil is capable of it, and the fertilizing materials are at hand.

THE ARGENTINIAN BUBBLE BREAKS.

Millers and grain-growers in the United States have been hearing a good deal of talk about the alleged enormous wheat and corn capacity of the Argentine Republic. It is true that most of the recent booming of that country has come from Europeans who have made large investments in its various industries, but we had supposed that much of the flattering comments had truth for a basis. It appears now

that the talk has been mainly gross exaggeration. An instance may be made of the reports on the last wheat and corn crop of the Republic, which indicated "enormous" surpluses for exportation. The proof is now at hand that the misrepresentation was intentional. The Buenos Ayres "Standard" of July 4 last gives the following statement on those crops:

"Every day confirms the shortage in the maize crop, not only in the province of Buenos Ayres, but all over the Republic. What still further contributes to put up the price of maize is the failure of the crop in Uruguay, and large quantities have been shipped to Montevideo and other Uruguayan ports. The fears that the supplies for local consumption will run short, the many shipments for foreign ports, and last, not least, the enormous rise in gold, have provoked a great rise in prices. The local demands, both for home consumption and for export, are large, but arrivals are small; the result is the high price of \$3.50 paid in the Once yesterday for consumption here. Consignees fear that prices will soon go to \$4.00. This is a serious matter, as the requirements for forage and distilleries in this market are simply enormous. These results show that agriculture this year will not be up to the great expectations formed at the beginning of the season. Maize, let it be remembered, is always the largest crop here. The New Centros Agrícolas, which gave rise to such speculation, have not grown maize; had they done so the benefit to-day would be enormous and the profits colossal in a market that is rushing to \$4 per 100 kilos. With regard to the wheat market, the millers of the city, it is well known, sold enormous quantities of flour, reckoning on an unlimited supply of wheat. It turned out, however, that the wheat crop of Uruguay was a loss, and heavy shipments followed to that quarter and still continue; furthermore, large shipments were made for European account, just the reverse of what the millers expected; they reckoned on a fall in gold and an accumulation in wheat here. All these calculations have fallen through, and to-day we see wheat quoted at \$8½ to \$9, the price paid yesterday in the Once for wheat of middling quality. On such a basis superior wheat must be worth \$10 per 100 kilos. The millers who sold short are now in a corner and are losing heavily. This dual rise in flour and wheat will produce in this capital a most unsatisfactory state of affairs, not to mention the danger of adulteration in bread, and, in sounding the voice of alarm, we call the special attention of the municipality to this danger, at a moment when zymotic disease is carrying off from 35 to 40 people daily."

Evidently, whatever the capacity of the Argentine Republic may be in the future, it is certain that for the present it is out of the field. Booming has ended in reaction. The "fertile soil and equable climate" seem to be much like the soil and climate of the United States, good at times, and bad at other times.

SPECIAL NOTICES.

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Do not order your cloth until you have conferred with us. It will pay you, both in point of quality and price. We are prepared with special facilities for this work. Write us before you order.

CASE MANUFACTURING CO.,

Columbus, Ohio.

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TOLEDO MILL PICKS AND STONE TOOL MFG. CO.

Manufacturer

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MILL PICKS.

Made of the best double-refined English cast steel. All work guaranteed. For terms and warranty, address, GEO. W. HEARTLEY, No. 297 St. Clair Street, Toledo, Ohio. Send for Circular.

N. B.—All Mill Picks ground and ready for use (both old and new) before leaving the shop. No time and money lost grinding rough and newly dressed Picks. All come to hand ready for use.

ALSO MANUFACTURERS OF

Shafting, Pulleys, Hangers, Coupling, Machine and Jobbing, Etc., Etc.

Practical Notes

STEEL CARRIAGE WHEELS.—Carriage wheels are now being made from cold-rolled steel. The spokes are tubular and adjustable. The wheels are so put together that any part can be replaced without taking off the tire or felloe.

GENERAL NOTES.

ACCORDING to the returns of the Dominion Immigration department, 811,210 immigrants settled in Canada between 1881 and 1889, yet the year-book just issued by the Federal Government claims an increase of only 730,046 in the Dominion's population since 1881. Allowing for natural increase, these figures indicate a very large exodus to the United States.

POINTS IN MILLING.

THE quality of the new wheat is, on the whole, good. The berries are large and plump, and the winter-wheat millers are sure of a fair supply of easy-milling grain. Of course it is too early to speak of the general baking quality of the new flour. That will be revealed further along in the season. What concerns the millers most is the external condition of the berry. Judging from numerous samples of the new winter wheat, the millers will escape that bugbear of all millers, shriveled and wrinkled grain. With the certainty that they will not be forced to repeat the work of two years ago on "corrugated rubber jacketed" wheat, as it was called in some places then, the winter-wheat grinders ought to be, and they are, reasonably contented.

THE inventors are still grinding out a large weekly grist of grain weighers. What do these men think? Are they not aware that there are already in existence more grain-weighers than can be used from this time to the uttermost termination of eternity? Why do they not turn their attention to other things of greater moment? The weighing of grain is an exact science, but the cleaning of wheat, the breaking, the production of middlings, purification and other essentials of flour-making still offer important points for settlement. On these points the inventors may find work that will bring them fame and fortune.

THE slipshod miller generally expresses his fatigue when he hears or reads anything about taking care of the small points about the mill. The other day I ran across a ramshackle-slipshod dusty who got into a high dudgeon over a suggestion of mine concerning the value of looking well after small matters. He exclaimed: "Bosh! I get tired o' hearin' so much about this and that. It's all nonsense! I don't believe there's a mill in the country that is not taken care of properly! Why can't you fellers who write find somethin' else to write about?"

HE was "on his ear," and I took him by the same appendage, figuratively speaking, and said: "Come now! I'll show you what I mean, right here in your own mill, right now! Come with me, keep your ears and eyes open, and don't say a word until I get you back on this spot."

AWAY we went on a tour. I began at the furnace, pointing out the waste of coal by improper feeding, and continued through the entire plant. There was no single place in the whole plant at which there was not more or less wastage, in coal, in lubricants, in unnecessary wear of belting or parts, in grain, in flour, in bran, in packing, in everything. By the time the circuit was completed, Mr. Ramshackle Tumble-down Don'tcareadam Slipshod was in a brown study. His anger had given place to meditation. He began to see dollars leaking away in torn belts, in badly arranged and power-wasting programme, and the tiresome question of

small things took on a meaning to him that he never felt before. I found him ready to swear at the "crank" who could see neglect anywhere and everywhere, and when I left him he was ready to swear at himself as the biggest fool who had ever mismanaged his own business to his own loss, while thinking that he was conducting it just as it should be conducted.

"TAKE care of the cents, and the dollars will take care of themselves" is a good motto. For millers it may be paraphrased; "Take care of the small points in milling, and the great points will take care of themselves."

OCCASIONALLY I find a miller who doubts the efficiency of rolls, who complains that they are fickle and irregular, and who longs for the comparative "reliableness" of the old buhrs. In every such case I have found the complainant laboring under the idea that rolls do not require as much attention as buhrs do to keep them in condition. These men, when they used buhrs, spent much time and labor in dressing and otherwise manipulating their stones, but, when they come to rolls, they seem to think that friction can not wear iron, that bearings of rolls will not wear out, and that adjustments of rolls ought to be made on January 1, 1890, and be found perfect on January 1, 1990. They have somehow imbibed the idea that roller-milling does away with the necessity for care, manipulation and incessant supervision. That idea is an erroneous and expensive one in every way, and it generally stands in the way of those millers who learned buhrs and afterwards took up rolls. It is that idea that makes an old buhr miller a less desirable man than a younger man whose training has been on rolls exclusively. The ex-buhr miller must "shuck off" the idea that rolls are indestructible, that corrugations are everlasting, that edges on corrugation are of no account, and that roller-milling means ease and freedom in greater degree than buhr-milling ever offered. The plain fact is that roller milling is a far more exacting occupation than buhr-milling in some ways.

CUBAN AND SPANISH DUTIES.

Under the present Cuban tariff it would be much cheaper to ship American flour to Havana via Spain than to ship direct from New York. Supposing a barrel of flour to be purchased in New York, shipped to Spain and then exported to Havana, the cost and expenses would be as follows:

Cost f. o. b. in New York.....	\$4.80
Exchange, 10 per cent.....	.48
Maritime insurance.....	.08
Freight from New York to Spain.....	.75
Import duties in Spain.....	1.75
Wharfage, storage and reshipment.....	.16
Freight from Spain to Havana, ligh'e inc.....	.71
Maritime insurance.....	.08

Cost on Havana wharf..... \$8.81

The cost and expense of the same barrel of flour, if bought in New York and shipped direct to Havana, would be \$2.65 more than by the other route, or \$11.46, made up as follows:

Cost f. o. b. in New York.....	\$4.80
Exchange, 10 per cent.....	.48
Maritime insurance.....	.03
Freight from New York to Havana.....	.52
Import duties in Havana.....	5.63

Cost on Havana wharf..... \$11.46

CATARRH.

CATARRHAL DEAFNESS—HAY FEVER. A NEW HOME TREATMENT.

Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membrane of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result of this discovery is that a simple remedy has been formulated whereby catarrh, catarrhal deafness and hay fever are permanently cured in from one to three simple applications made at home by the patient once in two weeks.

N. B.—This treatment is not a snuff or an ointment; both have been discarded by reputable physicians as injurious. A pamphlet explaining this new treatment is sent free on receipt of stamp to pay postage, by A. H. Dixon & Son, 337 and 339 West King street, Toronto, Canada.—*Christian Advocate.*

Sufferers from Catarrhal troubles should carefully read the above.

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THE BEST AND CHEAPEST CORN AND COB CRUSHER

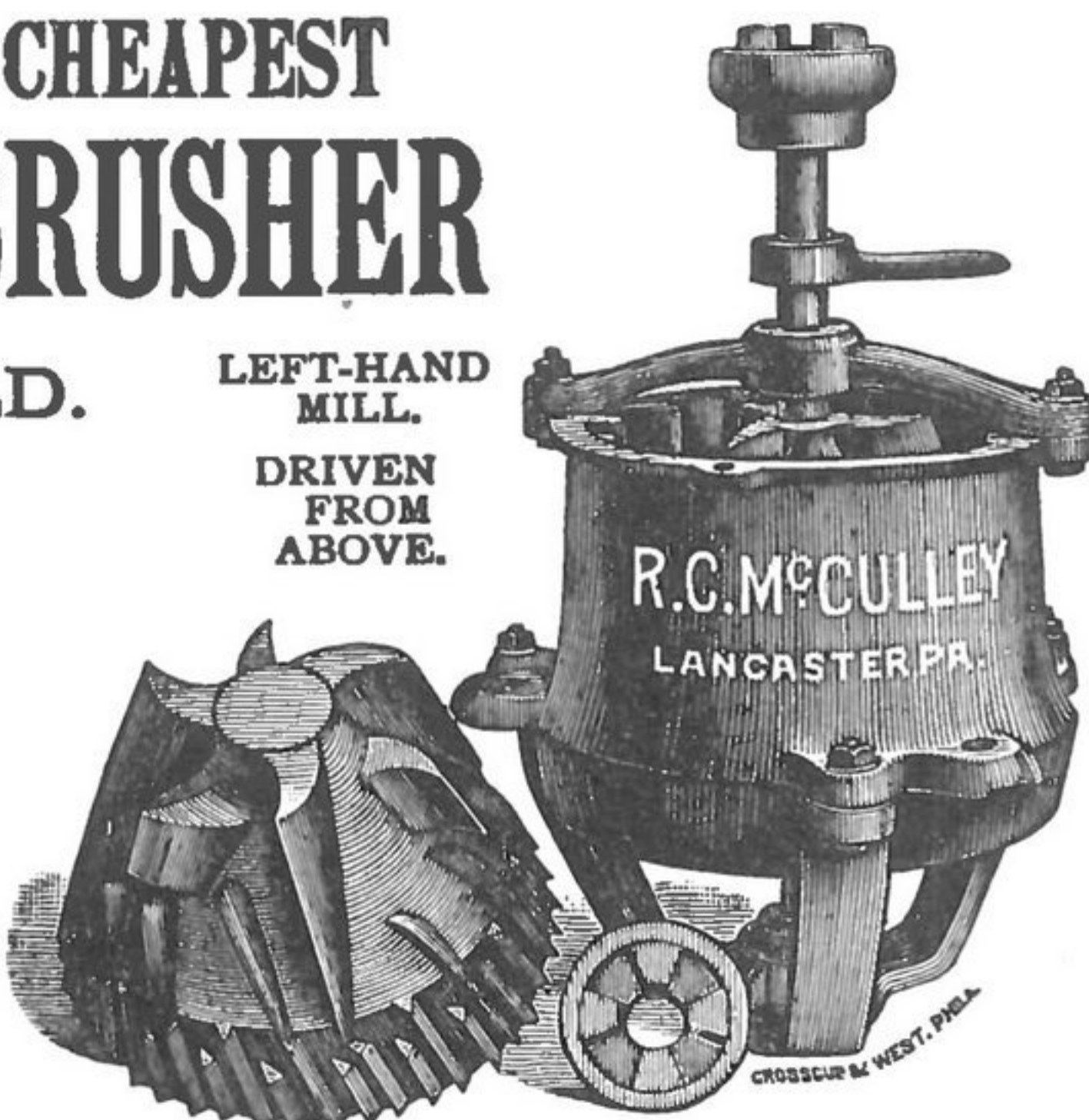
IN THE WORLD.

All wearing parts cast of a steel mixture. Notice difference in construction. Most area where most work is done, where all other crushers have least area where most work is done. Low priced machinery is not the cheapest, considering durability and efficiency. Sent on 30 days' trial when satisfactory reference is furnished.

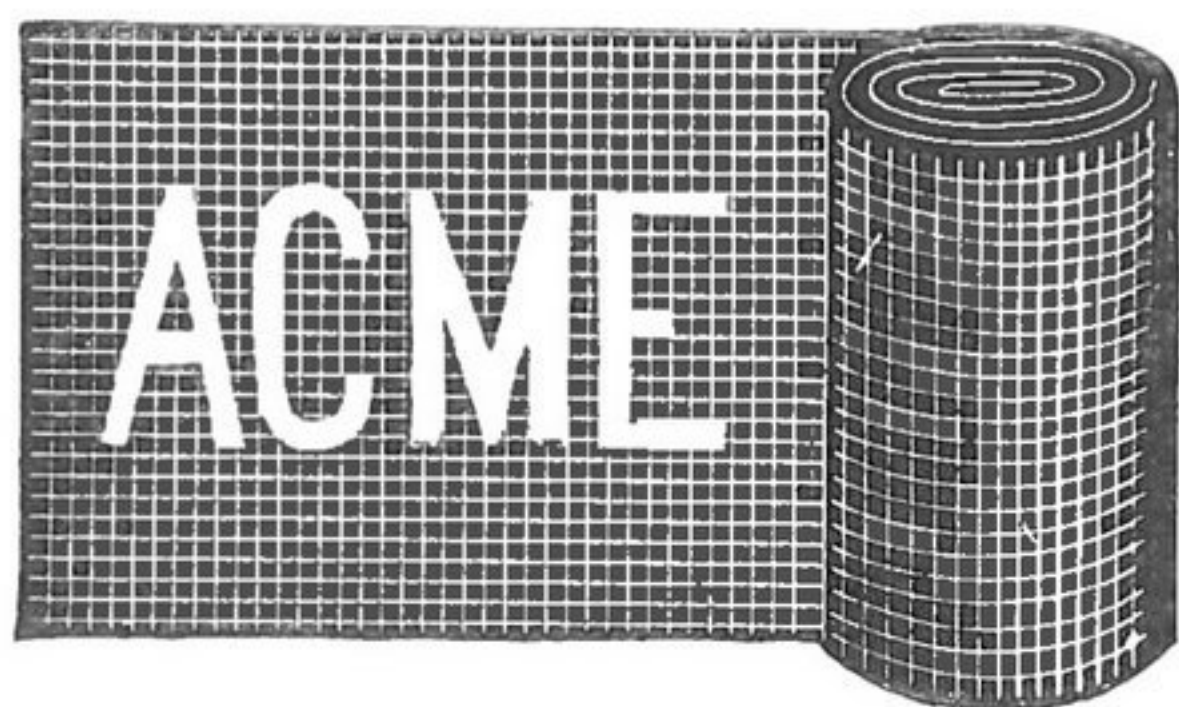
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ABOVE.



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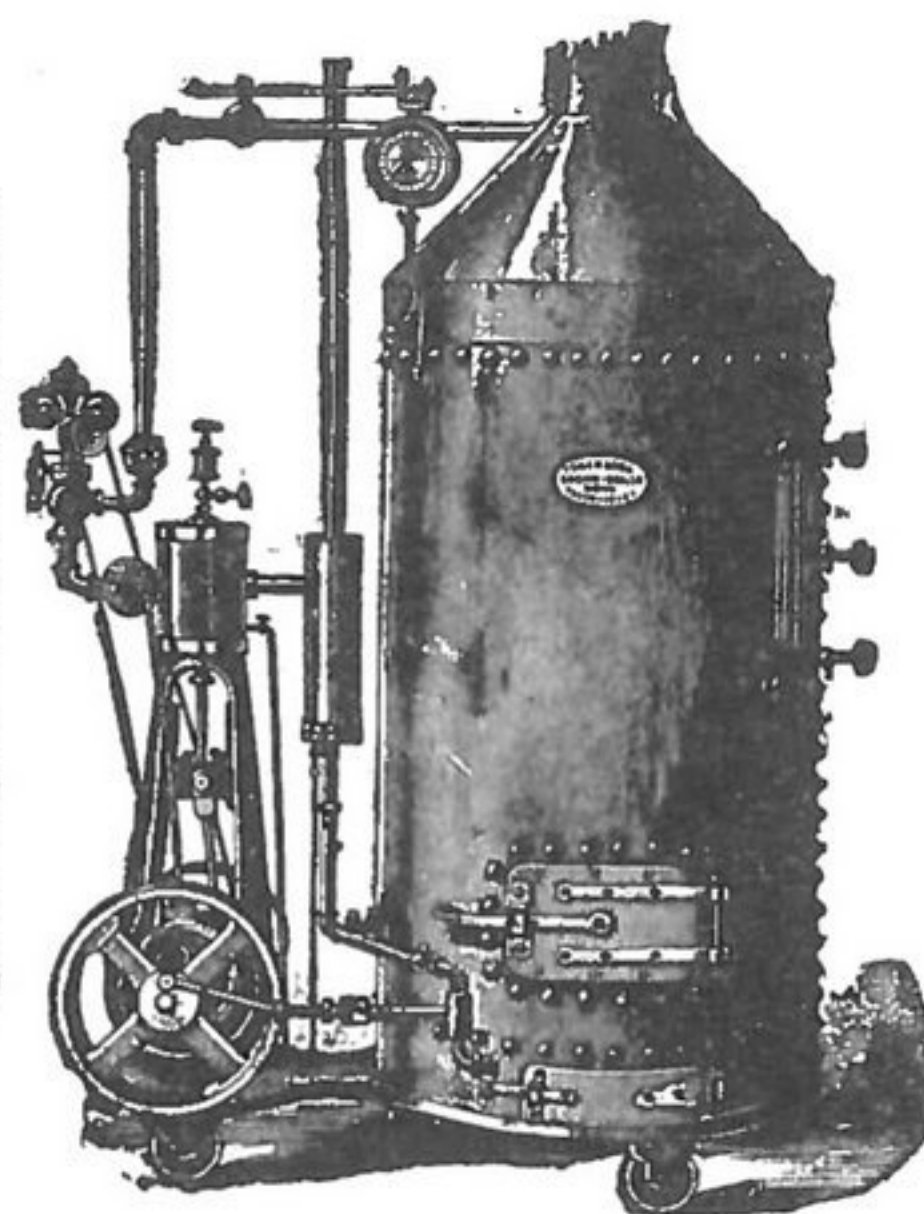
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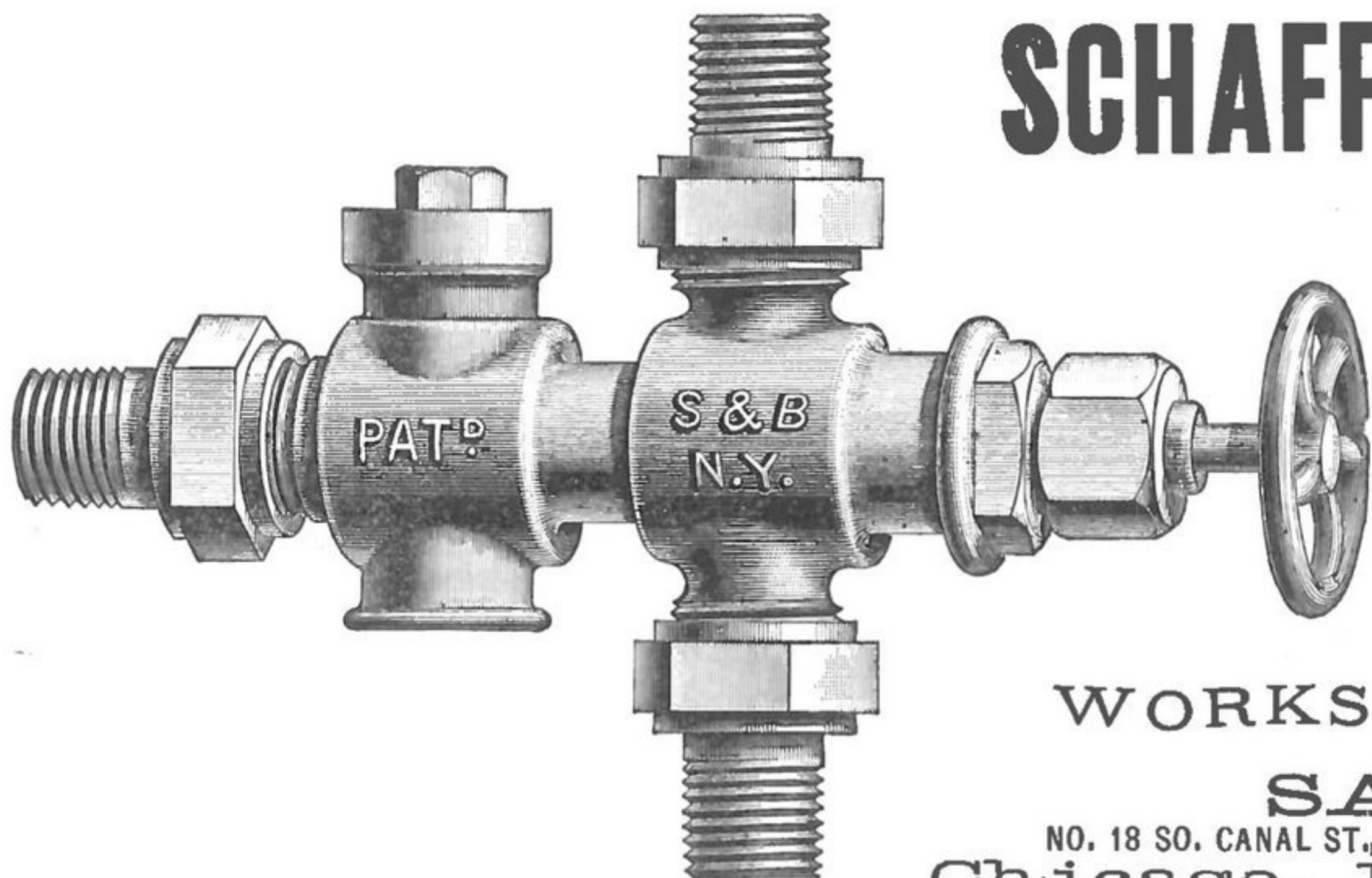
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Sometimes Corrugated Iron is represented to be "just as good as" our Patent Edge Corrugation. While this is complimentary to our material, unfortunately it does not work out well in practice. The only Corrugated Iron that can be recommended for roofing is manufactured by

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ENGINE COUNTERS AND REGISTERS.

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AND EXHAUST STEAM INJECTORS.

PYROMETER AND THERMOMETER, STEAM TRAPS, REDUCING VALVES, AND ENGINE AND BOILER APPLIANCES IN GENERAL.

WORKS AT BROOKLYN, N. Y.

SALESROOMS:

NO. 18 SO. CANAL ST.,
Chicago, Ill.

NO. 40 JOHN STREET,
New York.



Kirby & Son, Byhalia, Miss., build a grist-mill.

Montana's wheat crop this year is 20,000,000 bushels.

J. L. Divilbiss, Sam's Creek, Md., builds a roller mill.

Boehm & Co., feed-mill, Fort Wayne, Ind., foreclosed.

J. A. Kennedy, Thomasville, N. C., wants machinery for his 2 flour-mills.

Jas. Henry's flour-mill, St. Louis, Mo., burned; loss \$20,000; insurance \$15,000.

Stratton & Co., millers, Bedford, Mich., sold their plant to Whitney & Wicks.

Hatton & Sloane, millers, Olean, N. Y., sold their plant to the Acme Milling Co.

S. A. Connellee & Co., millers, Eastland, Tex., will add an elevator to their plant.

C. R. Leonard and others, Easton, Md., will build a roller flouring-mill; machinery is wanted.

A. D. Cookman & Son, flour-mill, Rockford, W. Va., remove their plant to Lost Creek, W. Va.

Hinkle, Greenleaf & Co., flour-millers, Minneapolis, Minn., will dissolve partnership on September 1.

The Nashville, Chattanooga & St. Louis R. R., office Nashville, Tenn., will build a grain-elevator at Bridgeport, Ala.

A. A. Freeman & Co.'s flouring-mill and elevator, La Crosse, Wis., burned on August 2. Loss \$300,000; insurance \$160,000.

Illinois reports a wheat crop of only 14,560,000 bushels, averaging 16 bushels to the acre in the north and 10 bushels in the south counties. The oats crop averages 22 to 29 bushels to the acre, with a total of 58,500,000 bushels, against 142,000,000 last year.

A report of August 5 says: The Kansas Railway Commissioners held another conference at Topeka, with representatives of the Kansas railroads, to determine upon a basis for the reduction of local grain and merchandise rates. The railroads offered to reduce the rates to the level of Nebraska rates, excepting in instances where the Kansas rate is the lower one. The Commissioners proposed that the railroads should adopt the Iowa schedule. The railroads combated this proposition on the ground that the amount of business done in Kansas, compared with that done in Iowa, would not justify the establishment of the Iowa rate. After considerable discussion the meeting adjourned, the Commissioners reserving their decision. It is possible that they will order that merchandise rates be reduced to the Nebraska schedule, and that grain rates be allowed to remain where they are after local discrepancies in charges shall have been properly adjusted. The roads promised to make a speedy adjustment of these discrepancies.

A number of millers of Southern Minnesota held a meeting at Mankato, Monday, July 21, and took steps toward the organization of a permanent association. One of the objects of the association is to secure co-operation in matters of mutual interest, and especially the coming crop. The following officers were elected: Charles Silverson, New Ulm, president; James Quirk, Waterville, secretary; George M. Palmer, Mankato, treasurer. The executive committee is composed of F. L. Watters, Mankato; Mr. Sackett, St. Peter, and E. R. Smith, Le Sueur. A committee on constitution and by-laws was appointed and instructed to report at the next meeting, which will be held in Mankato, Wednesday, Aug. 20. The meeting was very well attended, nearly 20 millers with a combined capacity of about 7,000 barrels, being represented at the meeting. Among those present were Charles Silverson, New Ulm; Mr. E. G. Pahl, New Ulm; James Quirk, Waterville; George M. Palmer, Mankato; John B. Schmid, Springfield; P. Bendixon, Sleepy Eye; Charles Ross, New Ulm; George Fry, Nicollet. There were representatives from Blue Earth City,

Wells, Owatonna, Henderson and Albert Lea, and mills at other points sent letters stating that they were in sympathy with the movement.

Insurance men and automatic sprinkler men are alike interested with millers in the announcement that the stone flour-mill of A. A. Freeman & Co., destroyed by fire at La Crosse, Wis., on August 2, was a sprinkled risk. This plant was entirely equipped with the Grinnell automatic sprinkler, 552 heads in mill, elevator, boiler and engine-house. It was the dry-pipe system, with two sources of water supply, the city main, which is 10-inch, with a 6-inch supply pipe to the basement of the mill, and a 4-inch pipe from the basement wall to riser; also a 4-inch supply pipe from the Blake fire-pump to riser. The mill building was of stone, with iron roof, giving easy access to the roof by a staircase from the inside and stationary iron ladder from the outside; the walls were about 7½ to 4½ feet thick at the bottom, starting on solid pile foundation and running out to 18 inches at the top. It was built in 1875-76; it was 65 feet wide by 80 feet deep; six stories high. The elevator was built of cribwork, with iron roof and sidings, situated on the northwest corner of the mill. Power to drive the same was obtained from the main line shaft in the basement of the mill. There were openings between the mill and elevator protected by iron doors. No smoking or spirituous liquor drinking was permitted on the premises, and a night watchman was employed, under control of an Imhauser clock. The smut-machines, grain separators and other grain-cleaning machines were located outside of the mill building. The dust therefrom was blown into a separate dust-room outside of the mill; the lighter part of the dust was blown out promptly and the balance cleaned out when necessary. Buhrs were six pairs and ran about 150 revolutions per minute. The middlings-purifiers were of improved and simple patterns, running with little friction. For extinguishing fire the mill had a Blake special fire-pump, operated by steam from main boilers, able to throw from 300 to 400 gallons of water per minute. This was connected with an iron stand-pipe of 4 inches diameter, running near the center of the mill buildings to the top story of the mill, and had attachments on each floor of about 100 feet of hose. The assured had also a cask of water on each floor, with buckets near each, ready for use, and situated in accessible places. There were Babcock fire-extinguishers on several floors. Hydrant of city water-works was within one block's distance. Two additional stand-pipes connected with city water works. The origin of the fire is supposed in La Crosse to have been spontaneous combustion, though there was no appreciable explosion. When the insurance was procured, the assured stated that oily waste was cared for in metal cans and burned as often as necessary; that conveyor-boxes would open automatically if choked up, and that elevator-heads were made self-cleaning. The particulars as to why the sprinklers did not extinguish the fire are not obtainable at this writing, but it is thought by experts that the flour-dust might have clogged up the mechanism of the sprinkler heads. The explanation of the reason why the fire got away from the sprinklers will be awaited with interest. The insurance foots \$160,000.

A NEW METHOD OF TREATING DISEASE.

HOSPITAL REMEDIES.

What are they? There is a new departure in the treatment of disease. It consists in the collection of the specifics used by noted specialists of Europe and America, and bringing them within the reach of all. For instance the treatment pursued by special physicians who treat indigestion, stomach and liver troubles only, was obtained and prepared. The treatment of other physicians, celebrated for curing catarrh was procured, and so on till these incomparable cures now include disease of the lungs, kidneys, female weakness, rheumatism and nervous debility.

This new method of "one remedy for one disease" must appeal to the common sense of all sufferers, many of whom have experienced the ill effects, and thoroughly realize the absurdity of the claims of Patent Medicines which are guaranteed to cure every ill out of a single bottle, and the use of which, as statistics prove, has ruined more stomachs than alcohol. A circular describing these new remedies is sent free on receipt of stamp to pay postage by Hospital Remedy Company, Toronto, Canada, sole proprietors.



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New York

MILLERS' FLOUR SACKS A SPECIALTY.

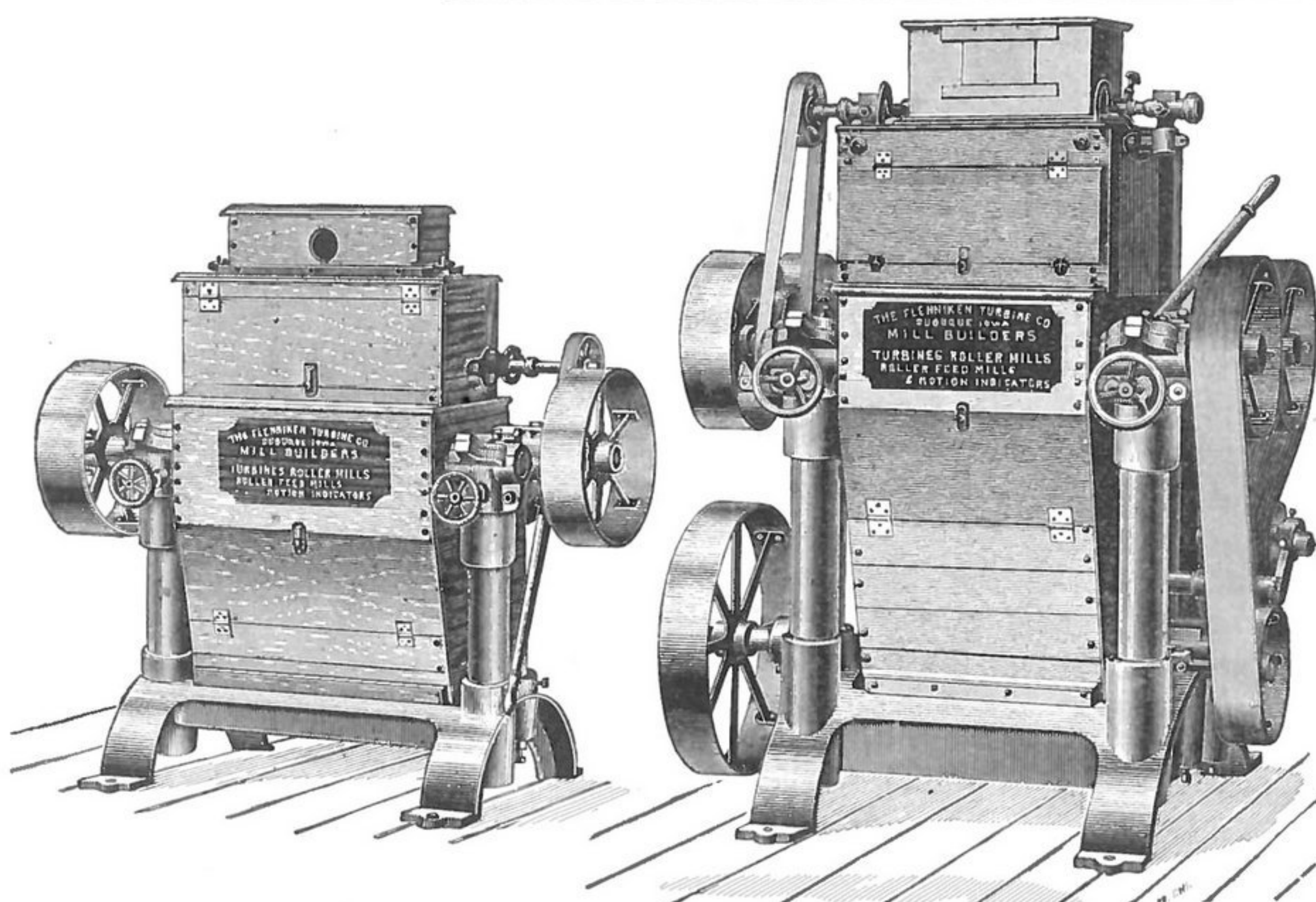
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*Ye jolly millers, one and all,
Who granulate with burrs,*

A Moses has Come to Deliver You from Egypt. Cease Trying to Make Bricks without Straw. The Red Sea of Expense Has Been Divided.

The Wilderness of Reductions has Been Shortened. There is Manna in Abundance for Those Who Believe. Listen to the Glad Tidings of Great Joy!



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Having consummated a bargain with **MR. O. C. RITTER**, the author and patentee of **One Reduction**, which gives us the *exclusive right* to construct mills under his patents, our patrons in the future will receive a license from Mr. Ritter.

SPECIALTIES! { Graham Roller Mills, Round Reels and Scalpers, Sectional Round Reels, Grain Separators, Motion Indicators. Before buying any of these machines send for our prices and descriptive circulars. } **SPECIALTIES!**
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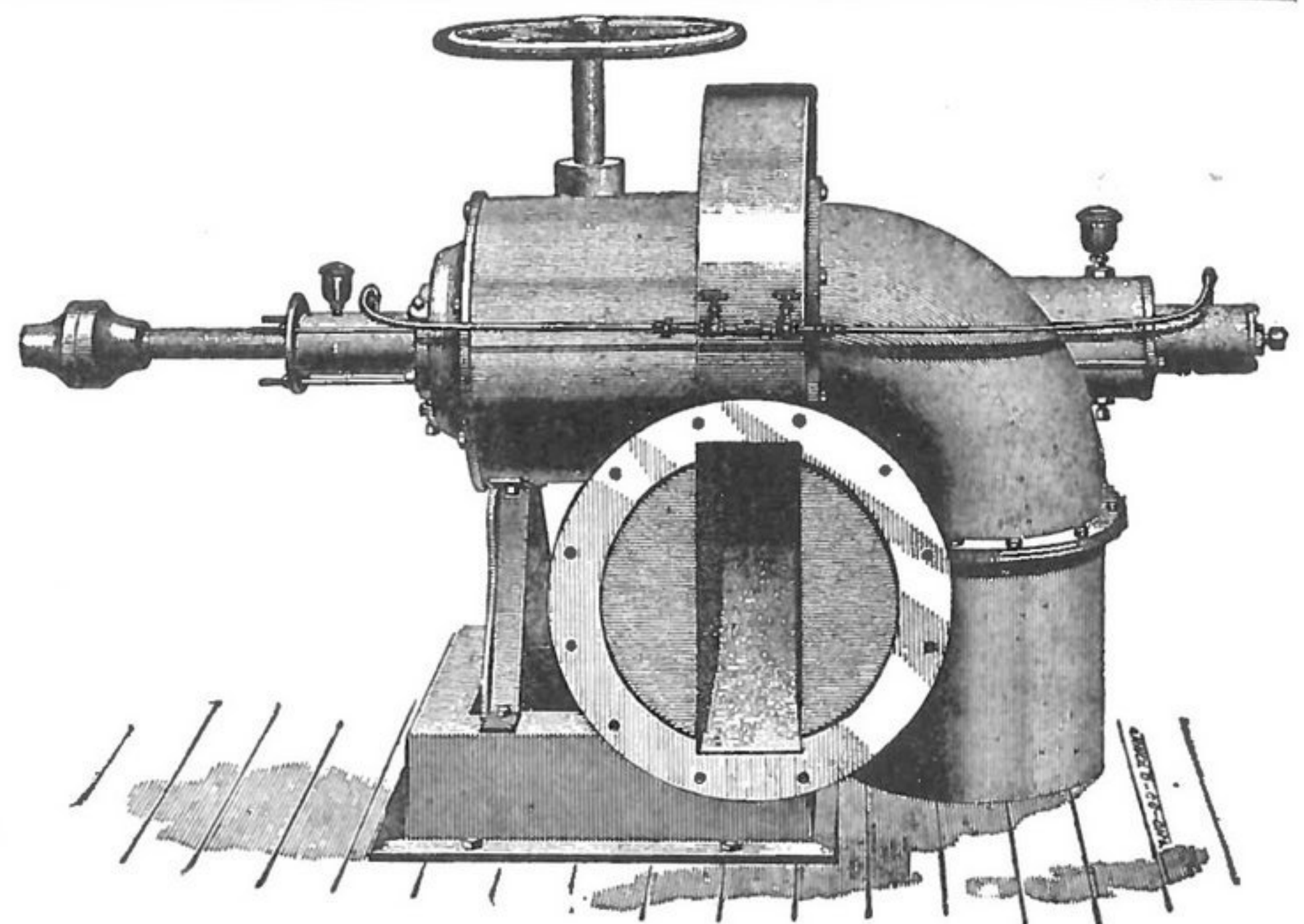
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EUROPEAN ECHOES.

RECENT estimates place the wheat requirements of France at 386,872,000 bushels for the coming year. It looks now as though the amount required to be imported would reach 52,000,000 bushels. The French crop of cereals this year is short in all lines.

THE Superior Council of Agriculture, France, has voted the following import duties on imported cereals and their products: Wheat \$1 on 220 pounds; wheat flour \$1.60 on 220 pounds; oats 60 cents; oatmeal \$1; barley 40 cents; barley flour 70 cents; rye 60 cents; rye flour \$1; maize, or Indian corn, 60 cents and \$2.20; corn-meal \$1 and \$1.70; rice in the husk 60 cents and \$1.20; shelled or broken rice \$1.20 and \$1.90; rice flour \$1.60 and \$2.20; malt 76 cents; biscuits of pure flour and other preparations of flour to pay a duty proportional to the amount of flour contained.

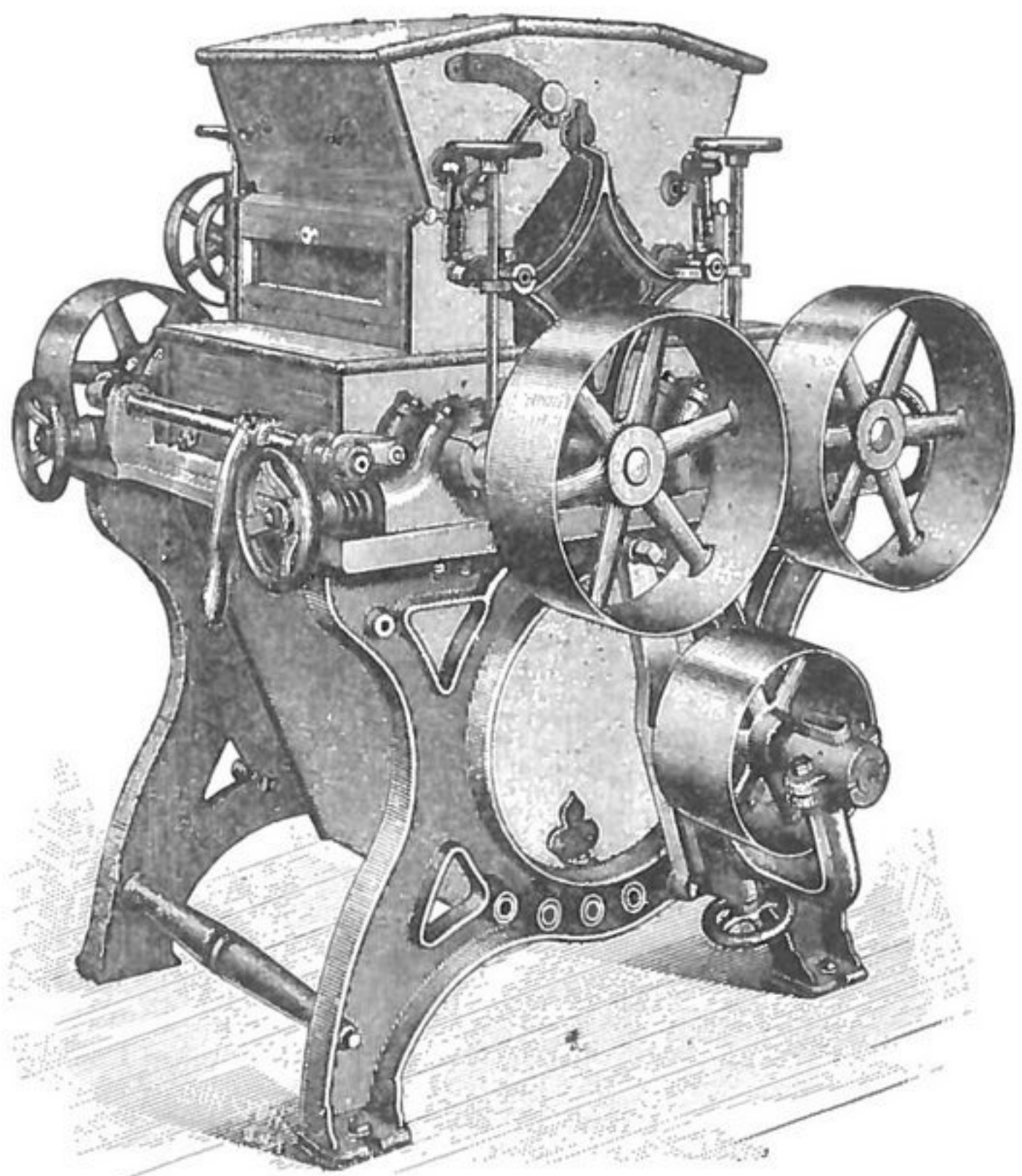
PROFESSOR WILKEN, a German scientist, who has been making a tour of the United States for the purpose of studying the economic and agricultural conditions of the country, summarizes his investigations and conclusions in the "North German Gazette" as follows: "The danger of competition in cattle for slaughter is a great and fatal one, undoubtedly, the German farmer. It is, moreover, small comfort to the German meat producer to know that the finest cattle are not yet brought from North America to Germany, because they can not stand the wide transportation. I do not doubt that America in the near future will introduce into Germany, with profit, great numbers of living food cattle. We, moreover, dare not hold to the conviction that Germany, in the masses of agricultural production, can compete with North America. At present the United States have about 960,000,000 acres of surveyed unoccupied land, which the government either gives away for nothing for homesteads or sells at very low prices as pre-emption or timber claims. These 960,000,000 acres are about 3,888,000 square kilometers, that is, a territory as large as all of western Europe, with the exception of Russia and Turkey in their old frontiers. Besides this, the United States possesses about 840,000,000 acres of unsurveyed and unoccupied land, making altogether 1,800,000,000 acres of unoccupied land, or about 7,500,000 square kilometers. What can thickly populated Europe, with a population five times as great as the United States, do against such a stretch of virgin soil? It were folly for German farmers to shut their eyes to this mighty movement of the North American farmers, and it were madness to believe that they can compete with North America in the mass of farm productions."

SAYS the London "Millers' Gazette": The Hessian fly is reported to have made its appearance in Lincolnshire, where it is doing considerable damage to the crops. A year ago the Agricultural Department received so many reports of a similar character that a circular was issued recommending farmers to adopt certain precautions during and after harvest, in order to destroy the puparia in infected localities. But the wet weather of July and part of August was supposed to have prevented the insect from doing any material damage. As the previous season had also been prejudicial to the development of the fly, it was predicted that we should not be much troubled with it this year, and that prophecy appears to have been in the main correct, although the mild weather of the spring was exceptionally favorable to the hatching and vigor of the first brood of the year. Indeed, it seems to be the general impression that the Hessian fly is worse than its bite, as far as this country is concerned. The insect was first noticed in England in 1886, when it did a little damage in a few districts. In the following year, when naturalists and farmers were on the lookout for it, the insect was detected in 72 districts in England and 20 in Scotland. A good deal of damage was done to wheat and barley crops in some of the localities attacked, while in other cases farmers declared that they could not detect any considerable injury, as the infested crops had yielded well. The results of

investigations made in 1887 showed that under exceptional circumstances the Hessian fly might prove a source of serious loss to our corn-growers, but entomologists have arrived at the conclusion that our climate is too changeable and too wet in winter to allow the insect to become as great a scourge as it is in America and South Russia. As no bad attack has occurred since 1887, the scare about the Hessian fly has died out almost as completely as that which was raised some years ago in connection with the Colorado beetle. Still, if crops of wheat or barley are found "knuckled down," the stems should be examined in order to see if there are any of the larvæ or pupæ just below the bends, and their existence should be reported to the Board of Agriculture or Miss Ormerod, if any are found. The white, legless maggot of the fly feeds outside the stalk, but inside the leaf-sheath, just above one of the knots, usually the second from the ground, and the pupa, or "flax-seed" as it is called from its appearance, is to be found inside the stem at the same spot. If the report from the Grantham district be correct, great care should be taken to cut the crops attacked at some distance from the ground and to burn the stubble, and the chaff, cavings and screenings of the corn.

THE LONG AND THE SHORT.

Commenting on long and short system grinding, a contributor to the "American Miller" says: "Each system has its imperfections. I am an advocate of the short, or the 3-break system, from the very fact that I can see no reason in going a long distance when a shorter will do. We take the 5 and 6-break mill; to begin with it is necessary to expend a large amount of money for an extra number of unnecessary rolls and reels, which require more power and lubricants than is needful to do the required work. Then, beside this, I think it a disadvantage to the stock, as every time it goes through a pair of rollers it makes a large amount of branny particles which it is difficult, if not entirely impossible, to separate from the flour; thence it goes to the scalpers, which from their motion causes the middlings to wear flat and uneven, which every miller knows is very difficult to handle when in this condition. Now the fine stuff finds its way to the flour-dressers, where it has to go through the same process, saying nothing of the treatment that the smooth rolls are giving our middlings. So by the time all our stock is separated and the flour gets to the packer, it is ground and dressed to death, will make bread that is dark, and will in a short time dry out so that one can hardly eat it. Besides all this, in the long mills there is more machinery, which gives the miller more to look after. This may be a small matter in mills of small capacity; but in the larger plants it makes a vast difference; there it is necessary to have more men employed as assistants, which means more expense. Two breaks is too short, for I think it is necessary to have three breaks to clean the bran well. On the 3-break mill I convert a large amount of the berry into flour on my first break, using a roll with 16 corrugations, which leaves my bran very large and light. The flour being taken off here relieves the tail of the mill, thereby allowing us to make a closer finish than is possible to make on the long-system mills. Besides it does not allow the good stock to be intermingled with the lower grade stock at the tail of the mill. You can see now I have two breaks left, 20 and 26 cut, to clean my bran, which I think is essential, as I do not have to treat it so roughly at one application as to cause any fine particles to become intermingled with the flour. Then in the short-system mills the stock is not worn so much by the action of the scalpers and dressers, as is the case with the long mills. We should be more careful in purchasing our machinery, whether for long or short mills. There is so much inferior machinery on the market that we can not be too careful. We should get machines that are easily oiled, convenient to get at, clean and durable. Then the miller and oilers will not neglect their duties. Some machines, especially rollers, are so badly arranged that it is almost impossible to adjust them when in motion; this results in uneven work, which is very injurious to the quality of work in any mill."



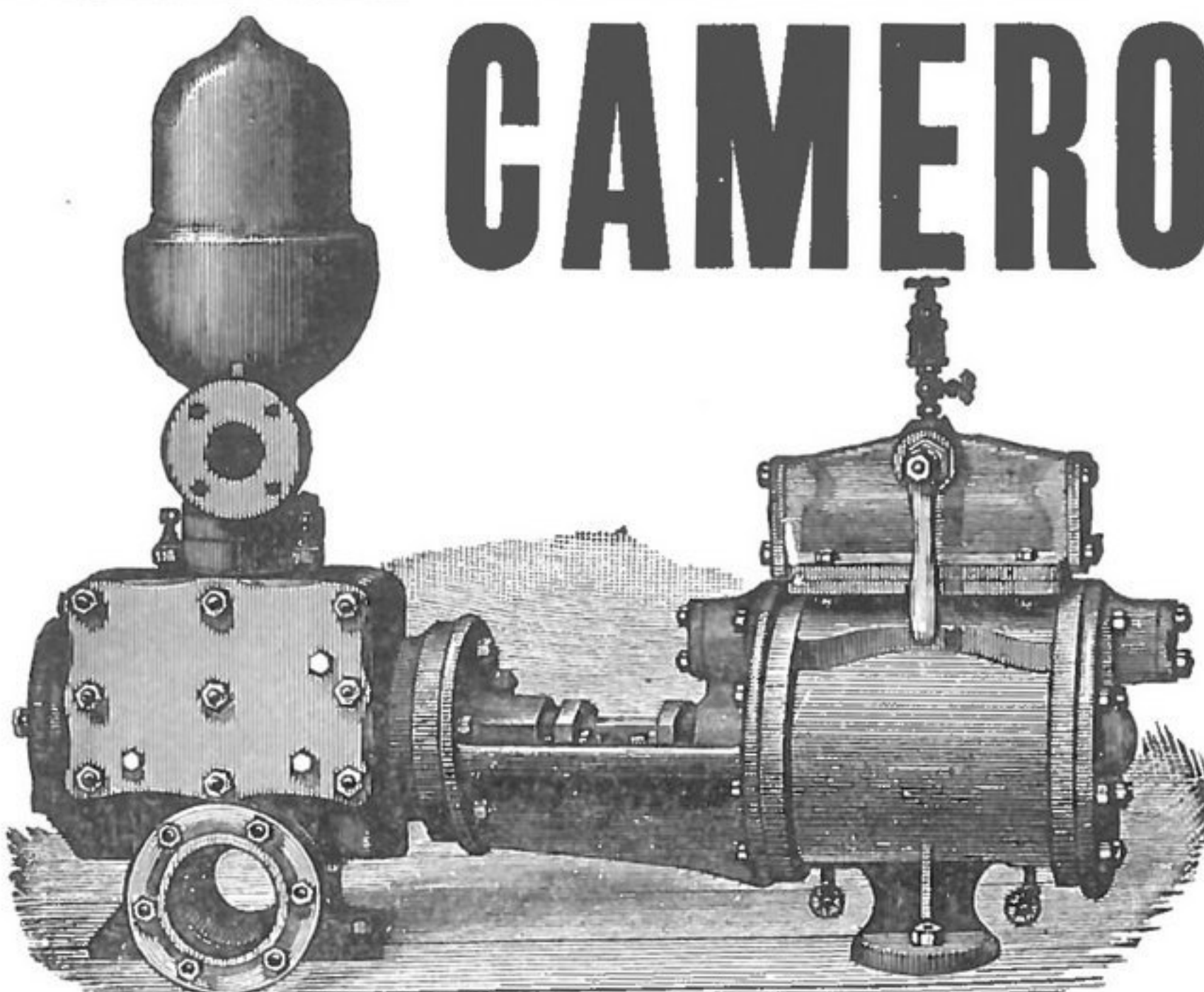
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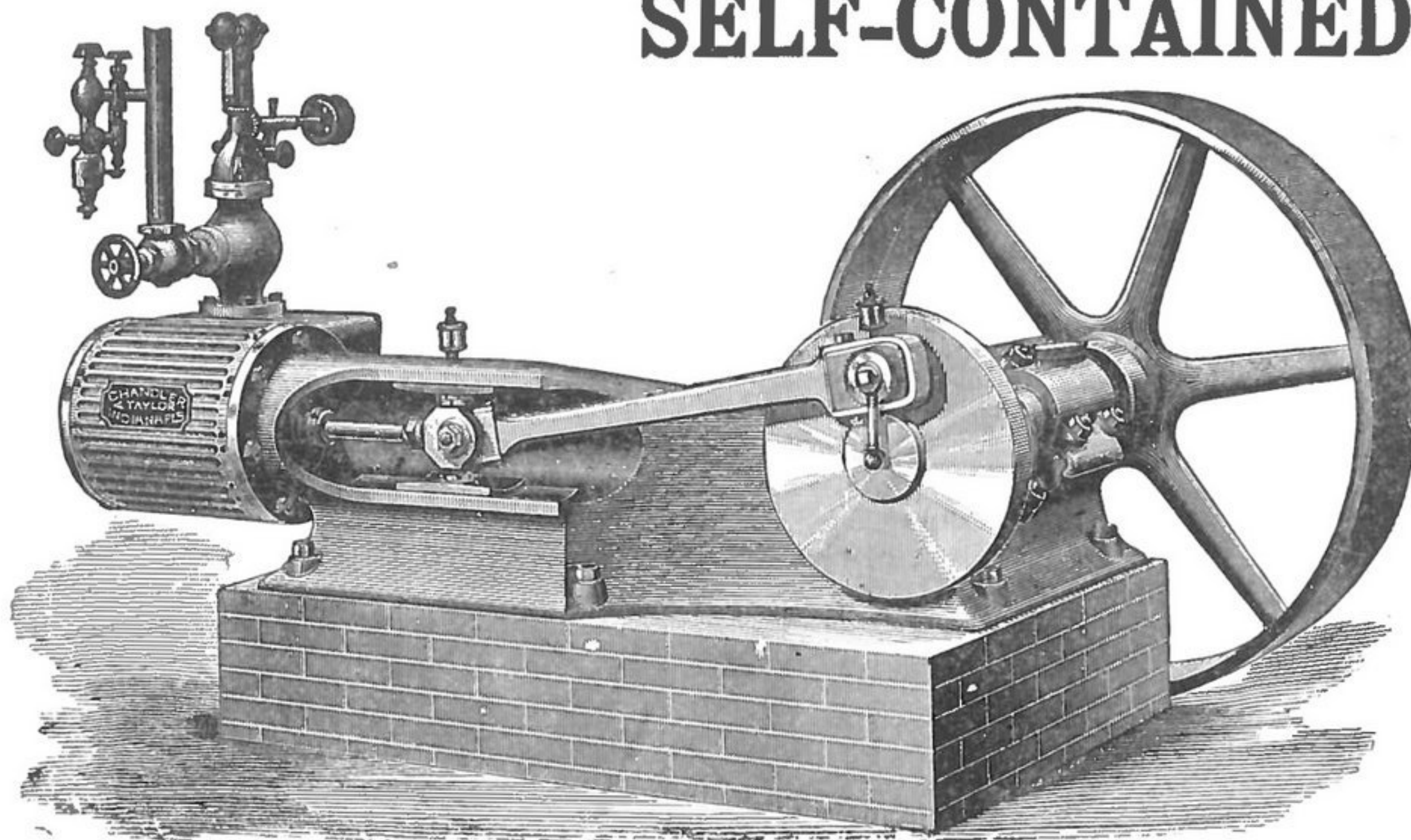
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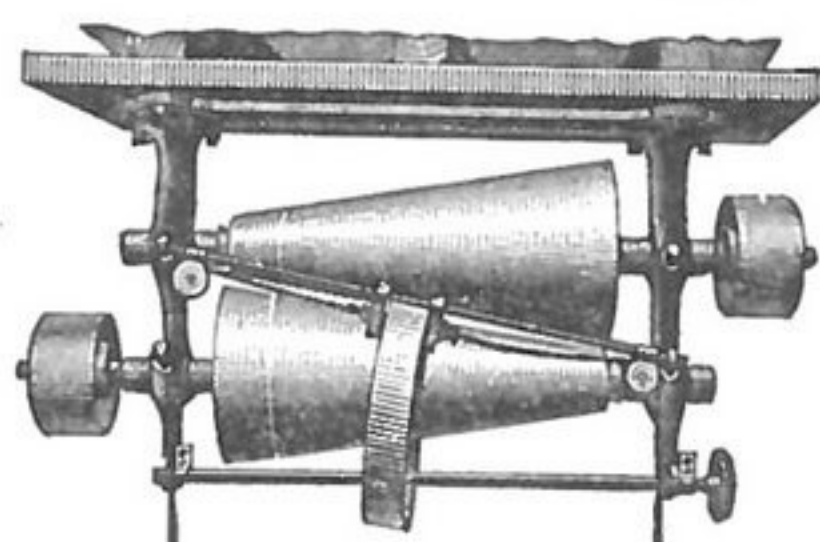
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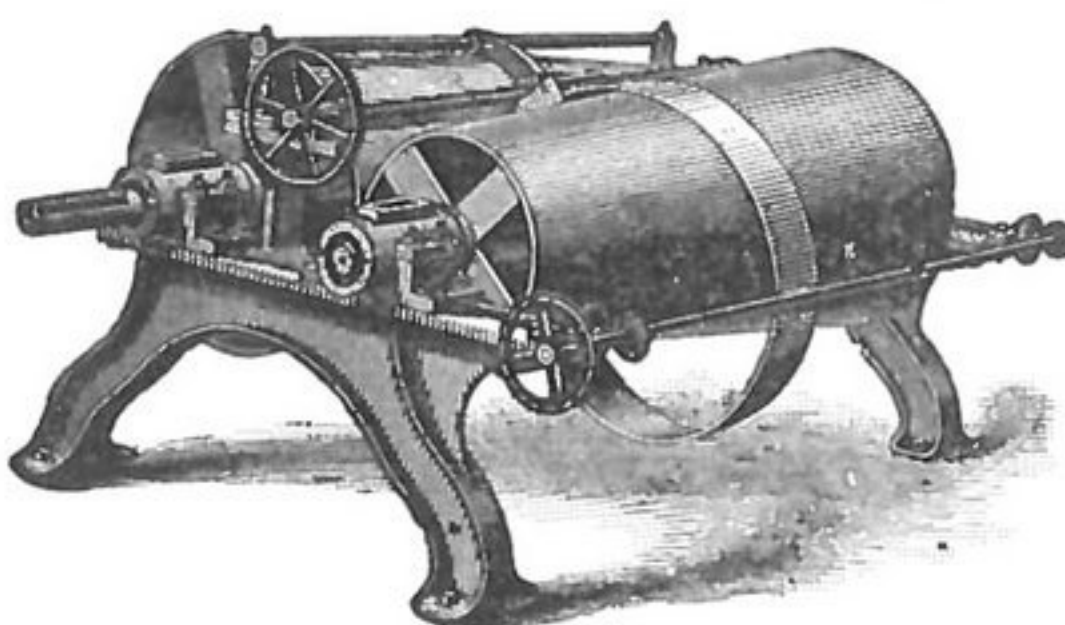
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SHIPPING

BLANKS. SEND FOR SAMPLE SHEET AND PRICES

BARLOW BROS. GRAND RAPIDS, MICH.



OFFICE OF THE MILLING WORLD,
BUFFALO, N. Y., August 9, 1890.

Friday last week was a day of dull and easier markets, on foreign and long selling and better weather reports at home and abroad. In New York August wheat closed at 95½c., against 85½c., a year ago. Receipts were 269,517, exports 332,000, and options 1,688,000 bushels. Minnesota, North Dakota and South Dakota "estimates" placed the crop of wheat in those three States at 180,000,000 bushels, and good rains in that region were reported. August corn closed at 52c., against 43¾c. a year ago. Receipts were 61,690, exports 84,000, and options 1,096,000 bushels. August oats closed at 38½c., against 27½c., a year ago. Receipts were 90,767, exports 12,416, and options 85,000 bushels. The minor lines were quiet and featureless. Wheat flour was neglected and nominal generally. Receipts included 5,708 sacks and 20,109 barrels, and exports 5,245 sacks and 6,603 barrels. Reports made the New York stock of flour 67,725 barrels of spring and 35,800 barrels of winter; total 102,525 barrels, against 218,600 barrels last month and 94,000 barrels a year ago.

Saturday brought buoyant markets in sympathy with corn, which was stronger and higher on the bad weather reports from the West. August wheat closed at 96½c., with receipts 178,129, exports 163,933, and options 3,400,000 bushels. Car-lots of No. 2 red new wheat sold at 96c. in elevator. August corn closed at 54¾c., after selling at 55c. Reports indicated drouth in Kansas, Iowa and Nebraska. Receipts were 85,953, exports 80,828, and options 2,560,000 bushels. August oats closed at 39¾c., with receipts 71,308, exports 11,716, and options 50,000 bushels. Wheat flour was strong and in fair demand, with receipts 16,093 sacks and 24,943 barrels, and exports 1,288 sacks and 1,671 barrels. The other lines were featureless.

Monday brought a strong upward tendency in breadstuff prices, on unfavorable weather reports. August wheat closed at 97¼c., with receipts 236,753, exports 164,648, and options 4,200,000 bushels. Cables were lacking, owing to a European holiday. The Missouri State Board made the crops of that State only 9 bushels to the acre, the smallest average since 1885. August corn closed at 53¾c., with receipts 172,761, exports 97,302, and options 2,500,000 bushels. The corn belt reported hot and dry weather. August oats closed at 39¾c., with receipts 80,603, exports 15,555, and options 95,000 bushels. Wheat flour was stronger with wheat, and holders advanced prices 10@15 cents. Receipts were 9,072 sacks and 27,453 barrels, and exports 12,395 sacks and 1,387 barrels. The minor lines were firm. The visible supply in the United States and Canada was:

	1890.	1889.	1888.
	Aug. 2.	Aug. 3.	Aug. 4.
Wheat.....	18,372,679	12,687,967	22,998,794
Corn.....	11,564,852	6,988,351	9,009,649
Oats.....	2,530,817	3,719,754	2,210,557
Rye.....	464,093	796,364	152,945
Barley.....	399,906	362,939	144,097

Tuesday was a day of unsettled markets, closing generally higher on bad weather reports from the spring-wheat and corn belts. August wheat closed at 98¾c., September at 99¾c., October at \$1.00¼, November at \$1.01½, and December at \$1.02. Receipts were 225,542, exports 79,432, and options 8,200,000 bushels. Early British cables reported brilliant weather in England and an increase of 1,300,000 bushels in the Indian shipments. Later weather reports made the wheat situation bullish. August corn closed at 54¾c., with receipts 159,538, ex-

ports 210,458, and options 2,600,000 bushels. One report from a traveler in Nebraska, who is not "interested" in corn, stated that he says the region he traveled through will not raise any corn. He saw plenty of fields that were valueless and others that sold for \$1.50 per acre. Farmers are paying 50 cents for corn and \$8.00 a ton for hay, against \$1.50 last year. August oats closed at 40¾c., with receipts 90,606, exports 13,961, and options 300,000 bushels. Wheat flour was in fair demand on higher grades for local trade. Receipts were 4,059 sacks and 26,935 barrels, and exports were 10,834 sacks and 3,147 barrels. One of the wheat estimates of the day in New York made the spring-wheat crop only 125,000,000 bushels, against a crop that on July 1 promised 181,000,000 bushels. It appeared certain that the past two weeks have seriously damaged both the corn and the spring-wheat prospects generally. All the minor lines were firm.

Wednesday brought decidedly higher markets all around on bad crop reports. Weather abroad was cabled fine, but home reports were bullish. August wheat closed at 99½c., September at \$1.00¼, October at \$1.00½, and November at \$1.01½. Receipts were 112,507, exports 252,209, and options 8,600,000 bushels, of which total 4,200,000 bushels were December at \$1.02@1.02½. August corn closed at 56c., with receipts 119,373, exports 37,775, and options 4,300,000 bushels. The amount of corn on passage decreased 744,000 bushels. August oats closed at 44c., with receipts 84,494, exports 7,427, and options 325,000 bushels. The Illinois oats crop was estimated at only 40 per cent. of the 1889 crop. Rye grain was firm at 60c. delivered for Western and Canada in full loads and 61@61½c. for State. Car lots track, 57@59c. Malt was slow and unchanged at 80c. for country Canada; 85@90c. for city do. Mill feed was very firm. Quotations: 40-lb, 77½@85c.; 60-lbs, 75@80c.; 80-lbs, 75@80c.; 100-lbs, 90@95c; sharps, 95@\$. Rye feed, 75@85c.

Wheat flour was firm but not very active. Receipts were 8,717 sacks and 23,160 barrels, and exports 9,320 sacks and 9,489 barrels. Nominal quotations were: \$3.85@4.00 for No. 1 springs in sacks for standard export grades, and \$4.10@4.40 for bakers' extras in sacks, \$4.35@4.80 in bbls., \$4.20@4.40 for rye mixtures, \$4.85@5.10 for straight springs, \$5.10@5.75 for patent do, \$5.10@5.50 for patent winters, \$4.85@5.10 for straight do, \$4.50@4.85 for clear do, \$4.20@4.50 for No. 1 do, \$3.35@3.75 for No. 2 do in sacks and bbls, \$2.90@3.30 for superfine do do, \$2.35@2.75 for fine do, \$4.65@4.75 for city mills for West Indies, \$5.20@5.65 for patent do.

Rye flour was strong and active at \$3.20@3.50 for superfine. Corn products were strong and active at the following quotations: Brandywine \$3.25 asked; Southern and Western \$2.70@3.15; coarse bag meal 98c.; fine yellow \$1.07; fine white \$1.12 for city Southern do 95c@\$.1.45 for the whole range in bags; yellow granulated \$3.25; white do \$3.45; \$3.30@3.50 for flour in barrels.

Thursday brought no material change. August wheat closed at 99¾c., with receipts 78,000, exports 90,000, and options 8,824,000 bushels. August corn closed at 55¾c., with receipts 149,600, exports 80,000, and options 3,392,000 bushels. August oats closed at 44c., with receipts 21,000, spot sales 104,000, and options 310,000 bushels. The minor lines were all firm.

Wheat flour was steady, with receipts 12,000 packages, and sales 20,000 barrels. Sales were made at the following rates: Low extras \$2.85@3.45; city mills \$4.65@5.00; city mill patents \$5.15@5.75; winter wheat low grades \$2.85@3.45; fair to fancy \$3.50@5.20; patents \$4.75@5.65; Minnesota clear \$4.10@4.75; straight \$4.15@5.35; Minnesota straight patents \$4.75@5.75; rye mixtures \$3.90@4.50; superfine \$2.50@3.10. The Minneapolis output last week was 156,670 barrels, and most of the mills in that town have advanced prices 20@30c. during this week.

BUFFALO MARKETS.

The wheat market started out steady at yesterday's closing prices but by noon it was down somewhat and closed at about \$1.04½ for No. 1 hard, \$1.03½ for No. 1 Northern, and \$1.02 for No. 2 Northern, all to arrive. Spot was half a cent higher. Some No. 1 hard was sold early at \$1.06, c. i. f. at \$1.04. In English markets prices were unchanged. Beerbohm quoting wheat firm with a poor demand. WHEAT—Sales of No. 1 hard were made at \$1.06 for 1,000 bu. in store, 5,000 bu. to arrive at \$1.06 and 5,000 bu. c. i. f. at \$1.04. Hard wheat closed at \$1.04½. No. 1 Northern at \$1.03½. and No. 2 Northern at \$1.02 asked. No. 1 Northern to arrive brought \$1.03½ for 8,000 bu. No 2 red wheat sold at 98½c. No. 3 red at 90@92c, and No. white at 93½@94½c. CORN—Sales of 16,000 bushels No 2 yellow were made early at 55½c., but the close was at 54¾c. for No. 2 yellow, 54½c. for No. 3 do, 53½c. for No. 2 corn, and 53¼c. for No. 3 do. OATS—No. 2 white sold at 44½c@45c. for old, 42@43½c. on track for new, 41½@42½c. for No. 3 do, 42½@43c. for old No 2 mixed, and 41c. for new do. Several cars of new No. 3 mixed were sold at 39c. RYE—The market is entirely nominal at 55@56c. for No. 2. OATMEAL—Akron, \$5.55; Western, \$5.55 per bbl; rolled oats, in cases, 72 lbs, \$3.10. CORNMEAL—Coarse, \$1.00@1.05; fine, \$1.05@1.10; granulated \$1.60 per cwt. MILL-FEED—City-ground coarse winter, \$14.00@14.50 per ton; fine do. \$14.00@15.00; finished winter middlings, \$15.00@16.00; coarse spring do, \$15.00.

FLOUR MARKET.

Spring Wheat.	Winter Wheat.
Patents..... \$5.75@6.25	Patents..... \$5.25@6.00
Straight..... 4.75@5.25	Straight.. .. 4.75@5.25
Bakers..... 4.25@5.00	Clear ... 4.25@5.00
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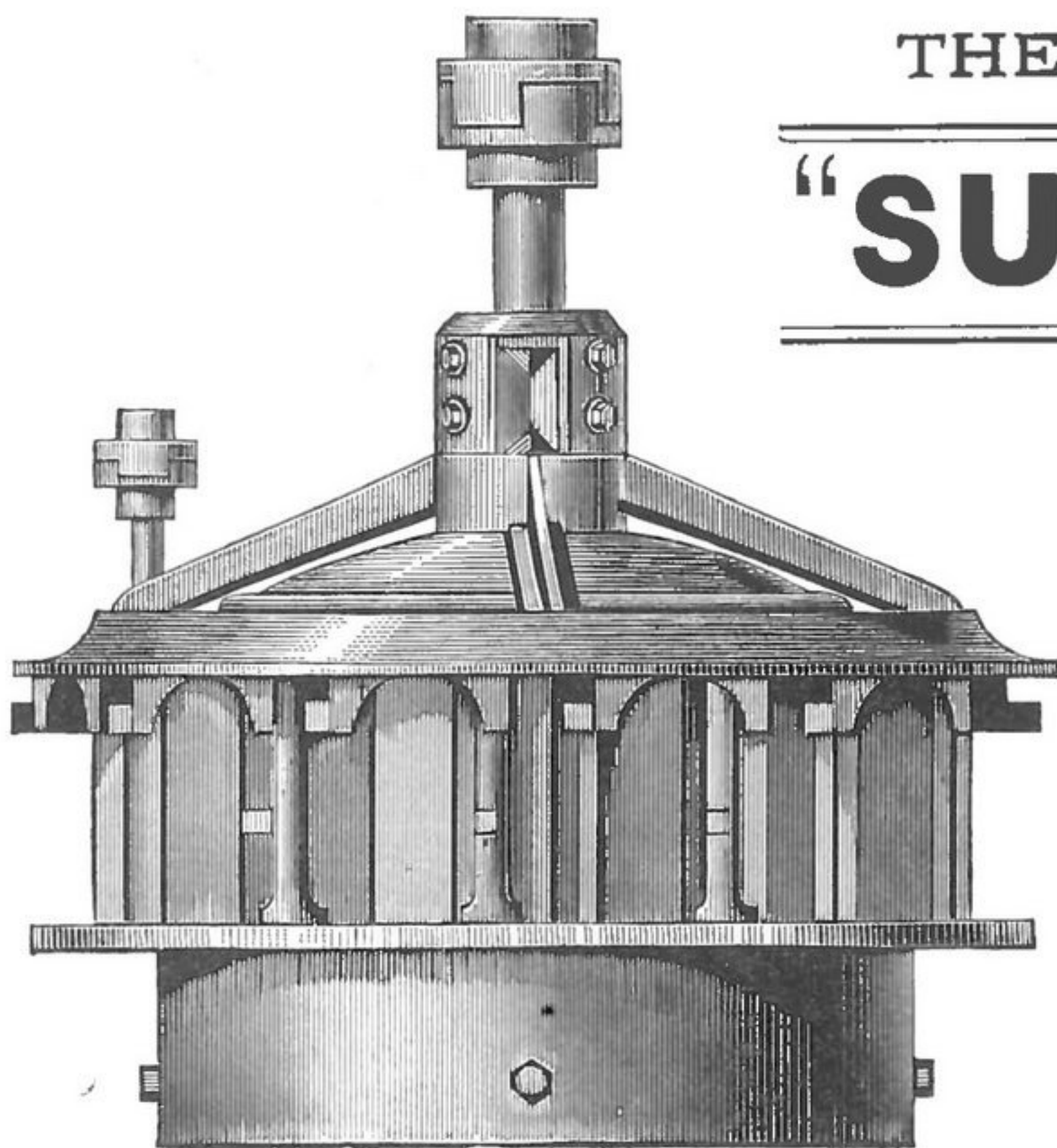
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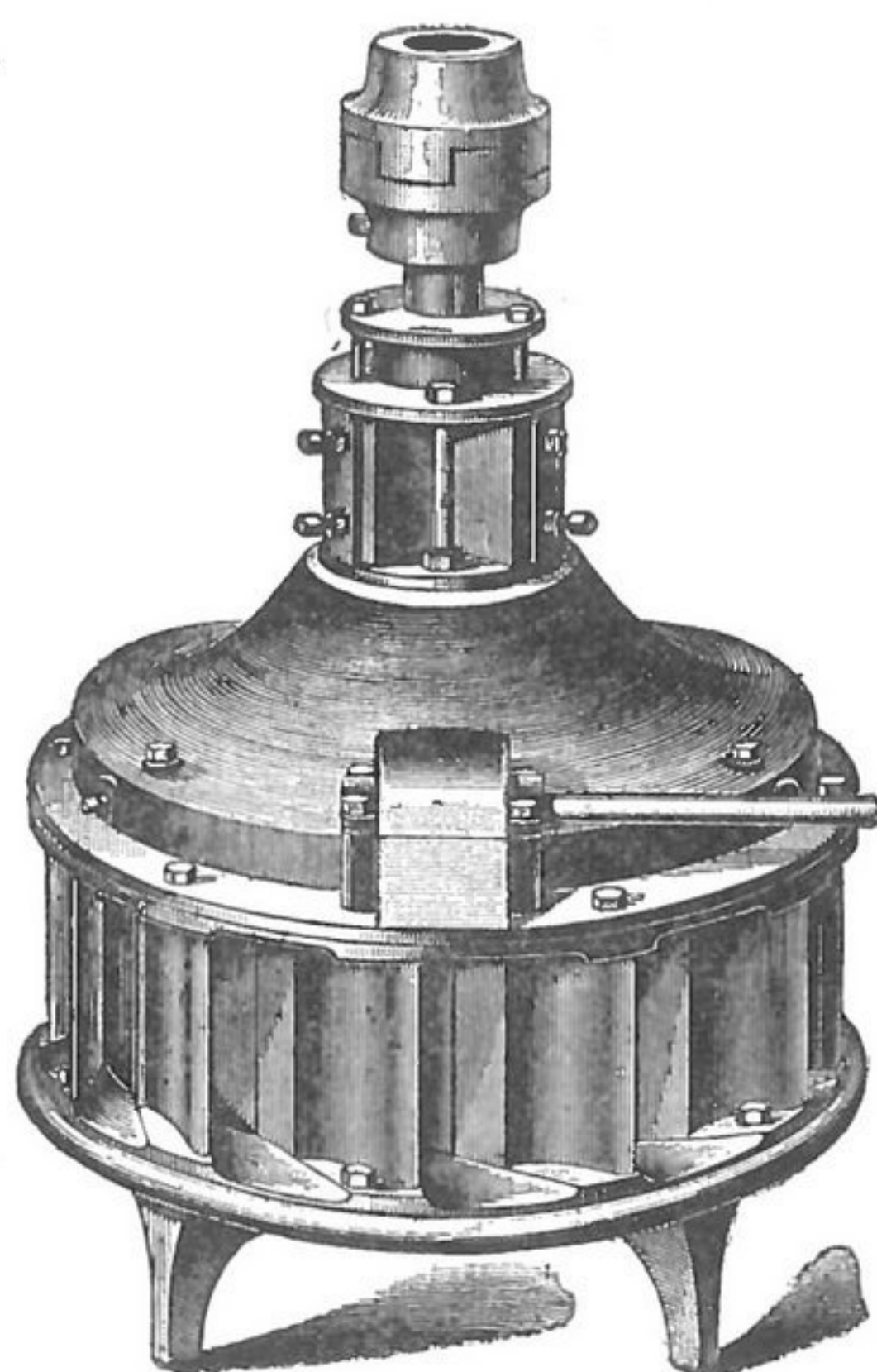
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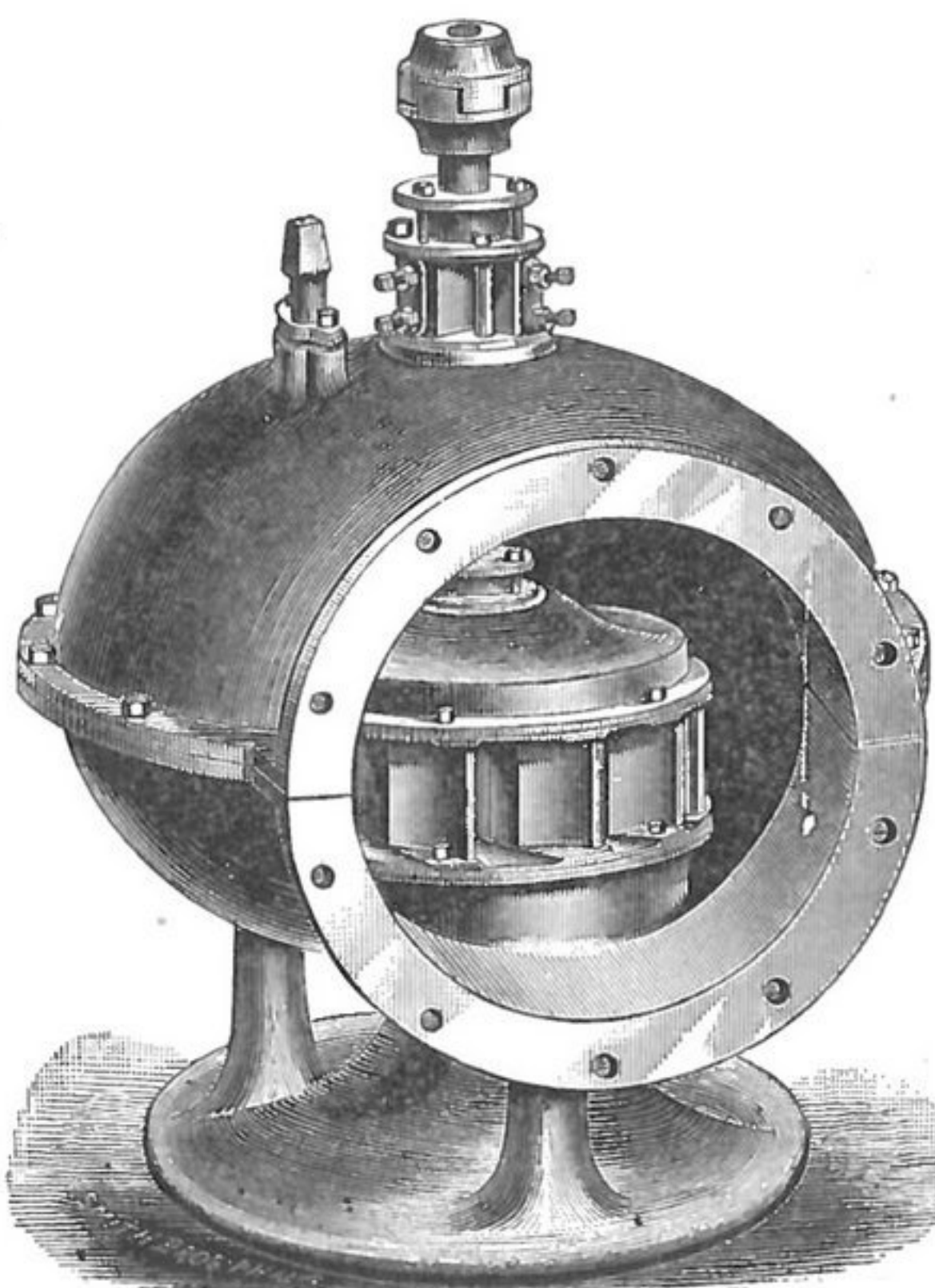
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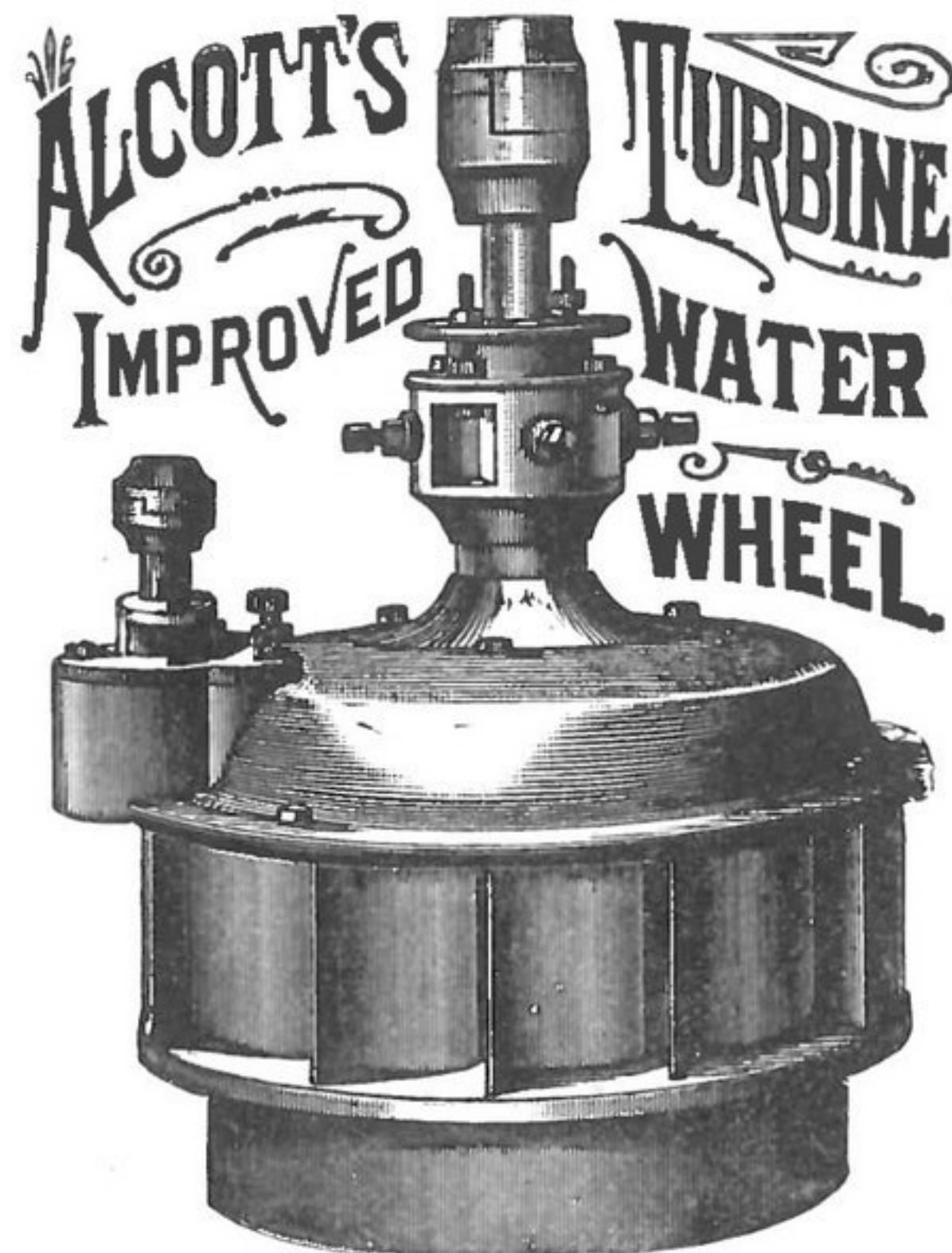
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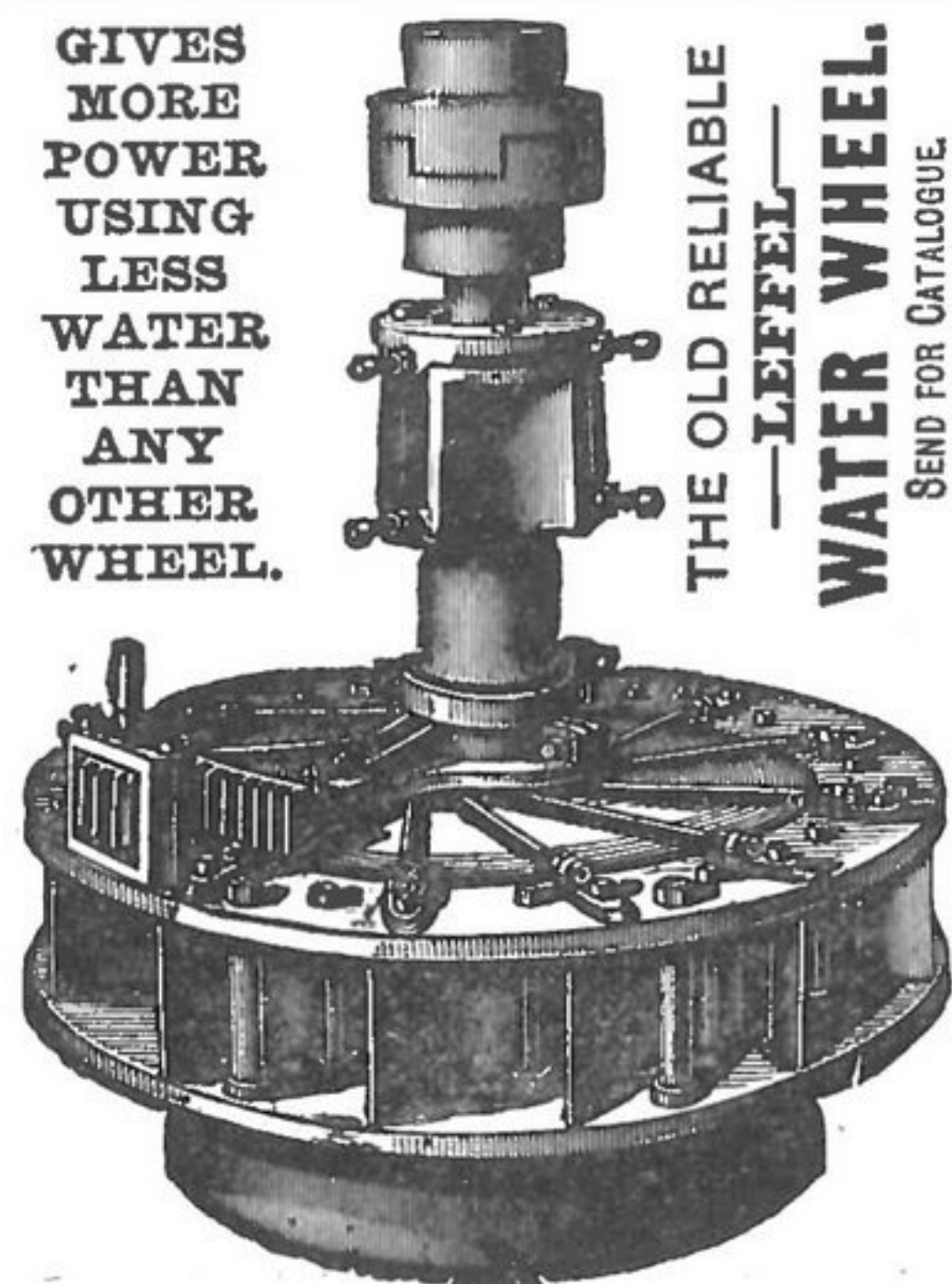


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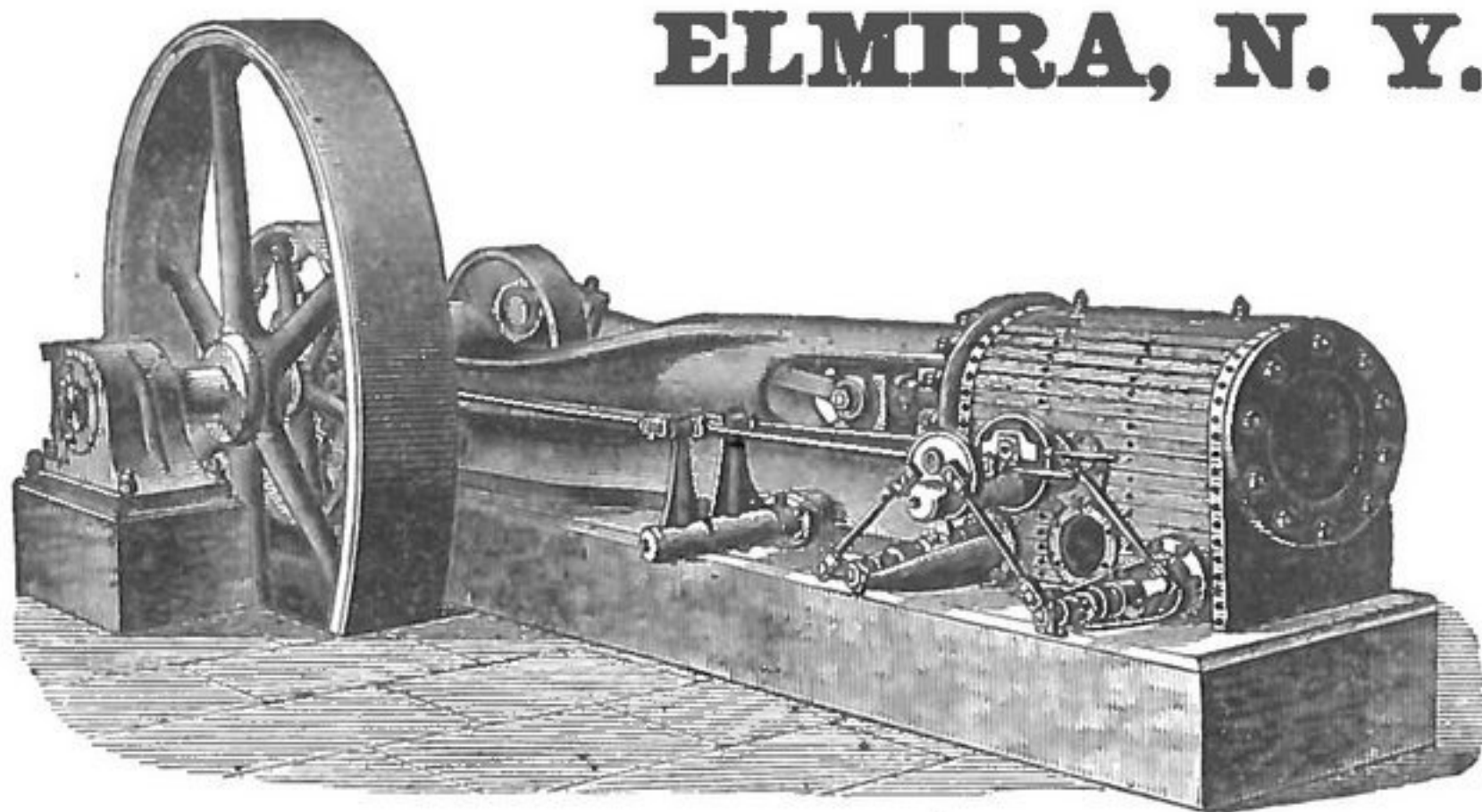
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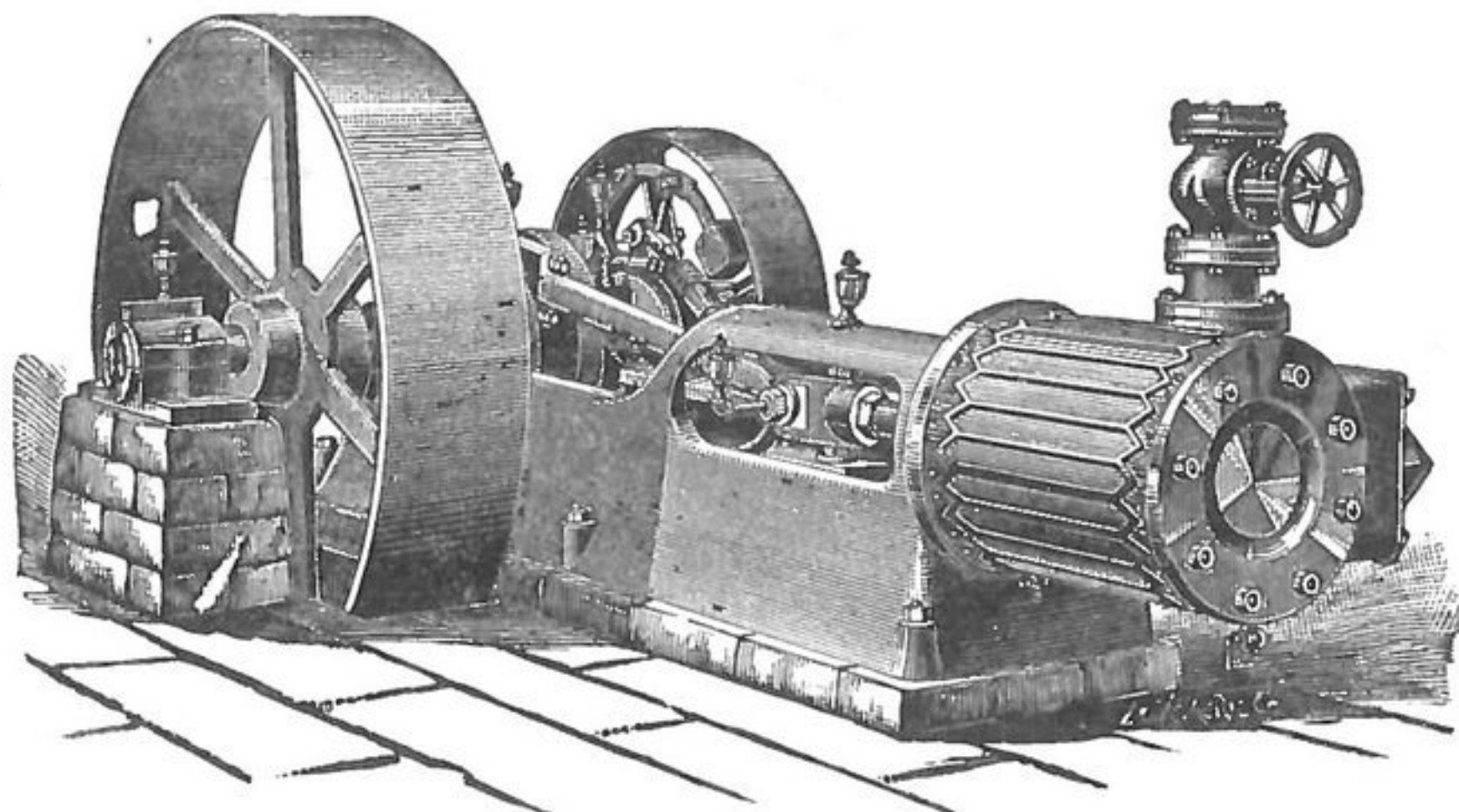
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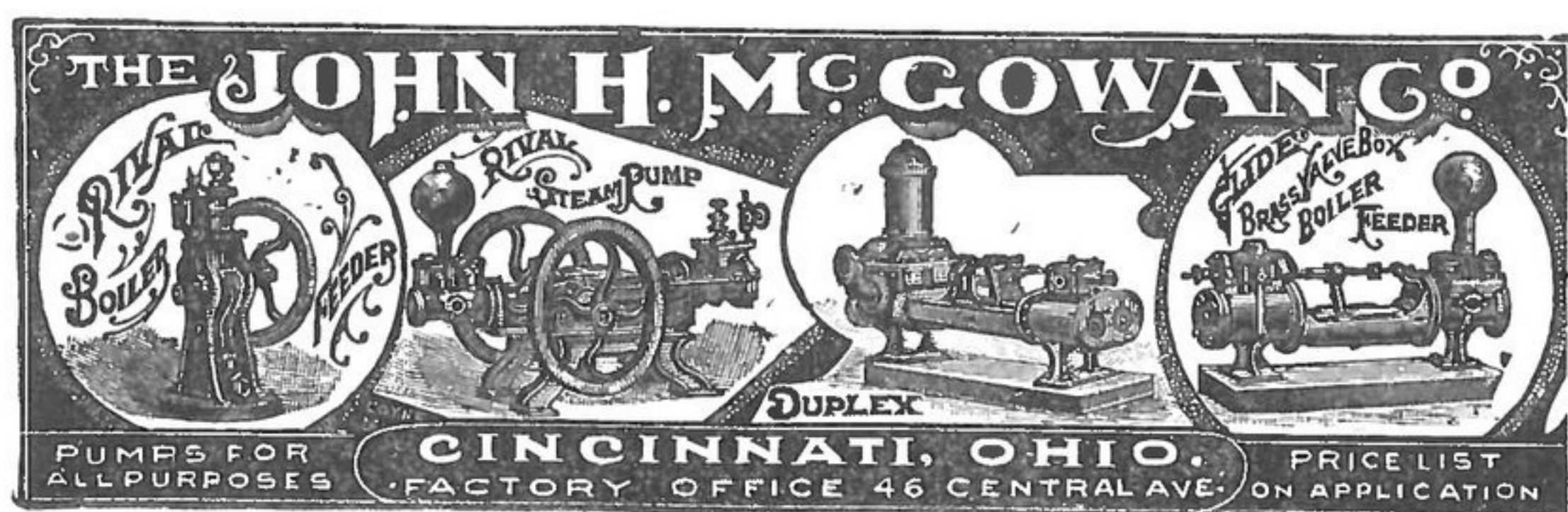
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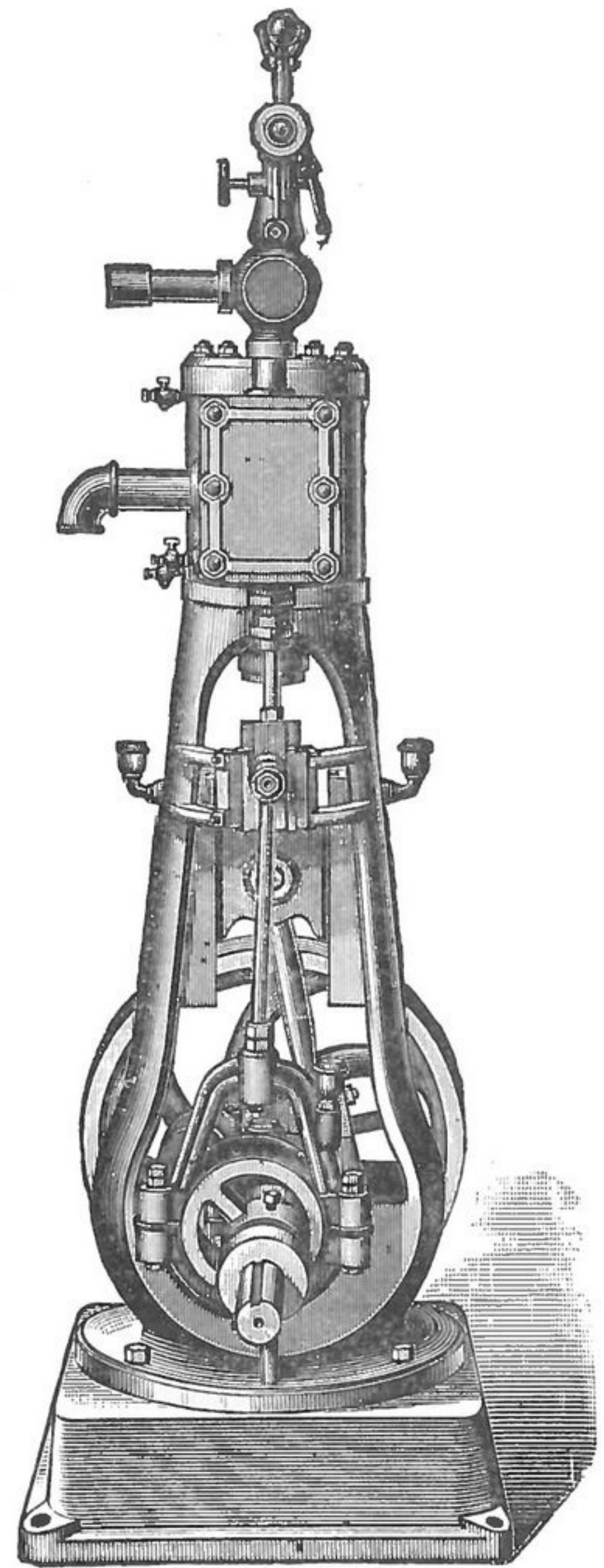
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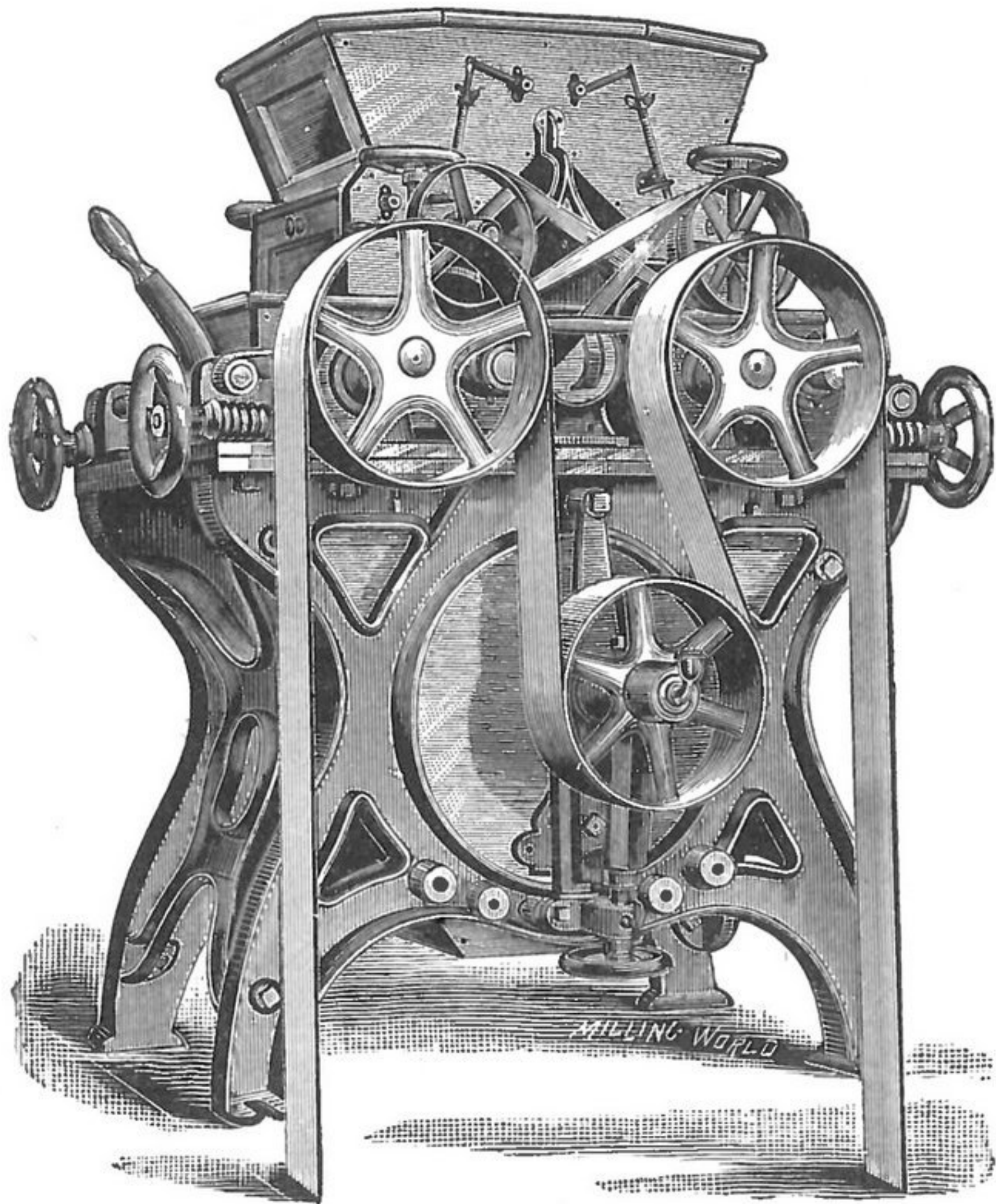


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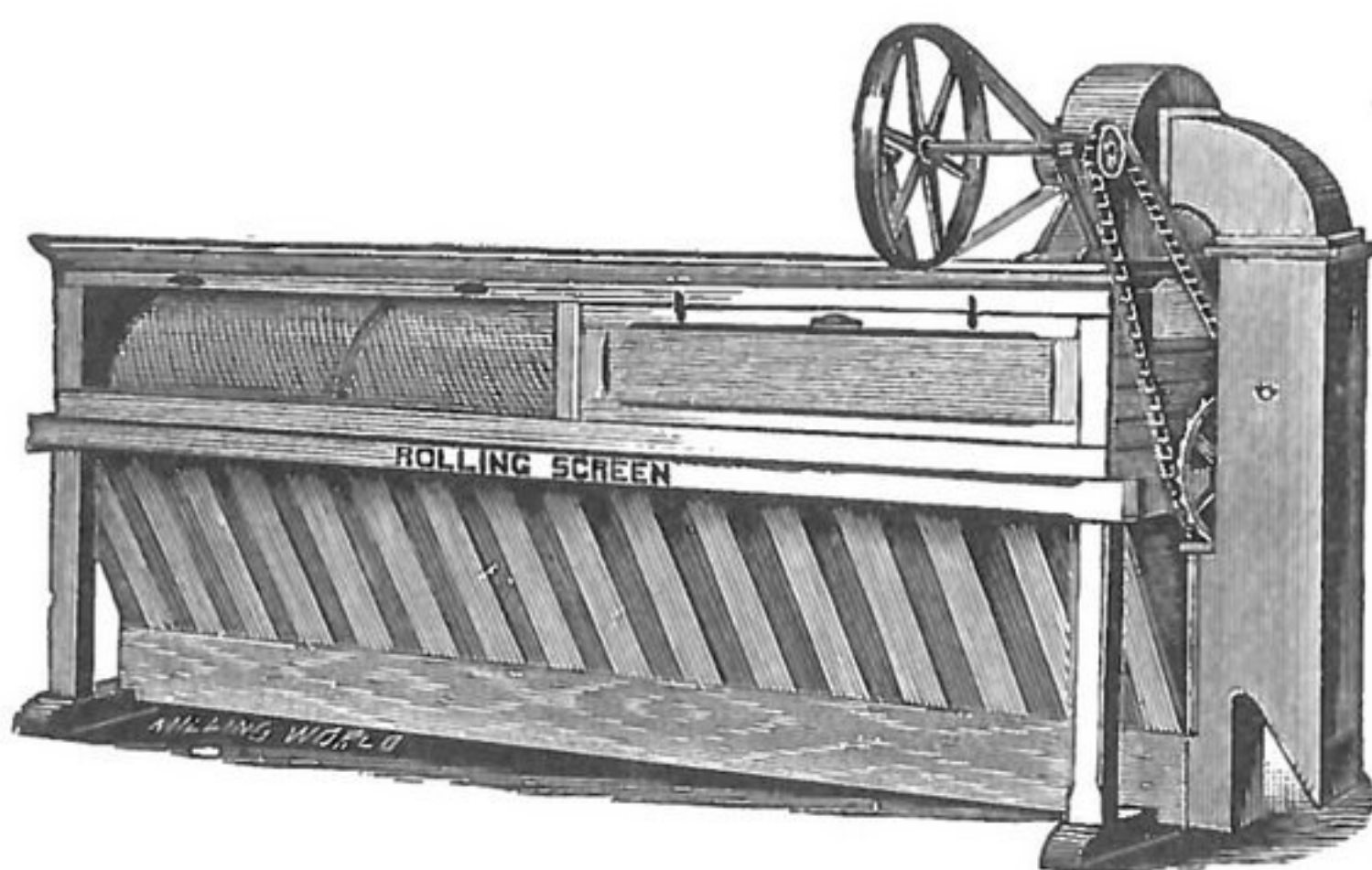
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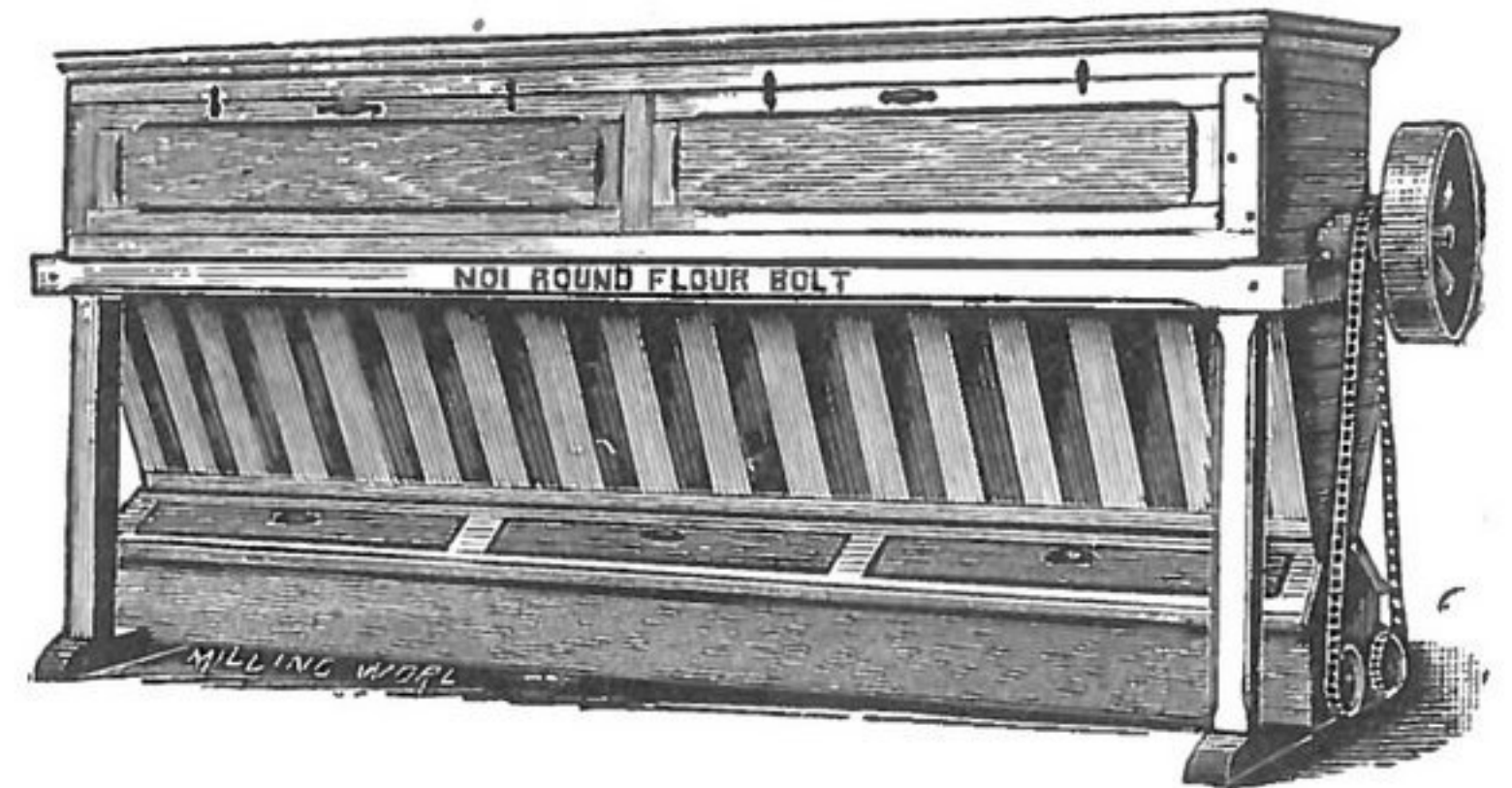
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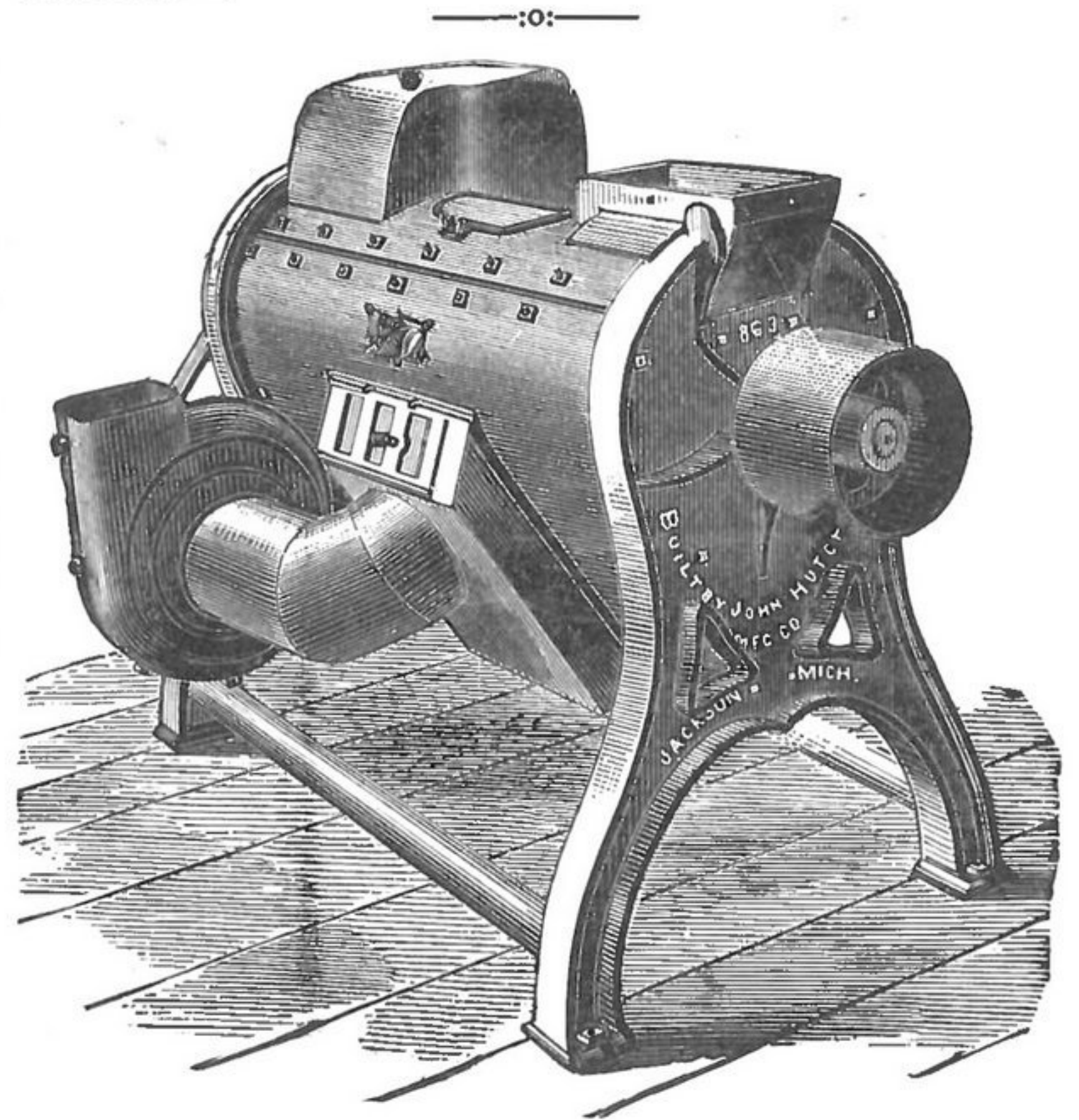


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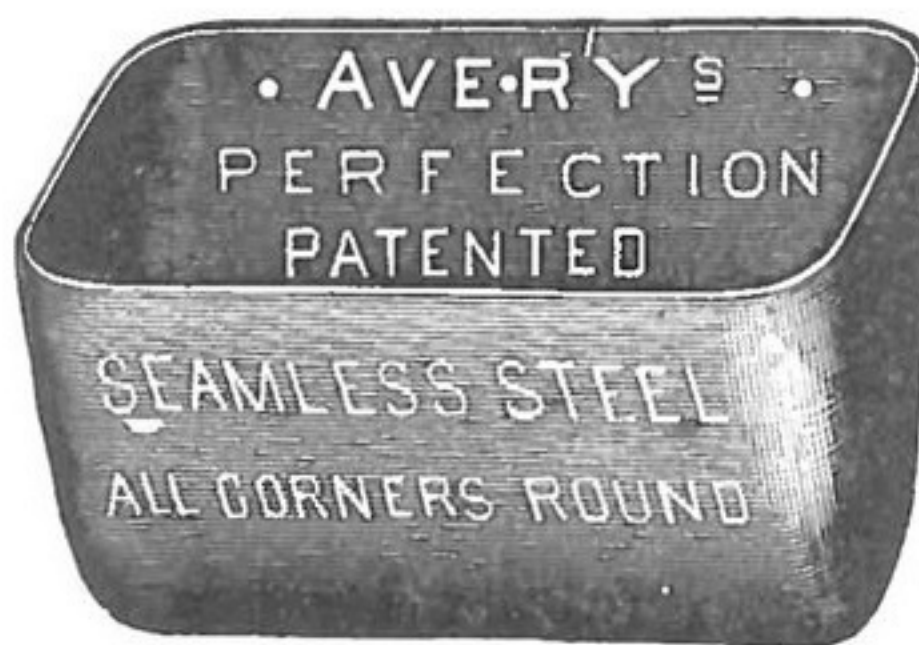


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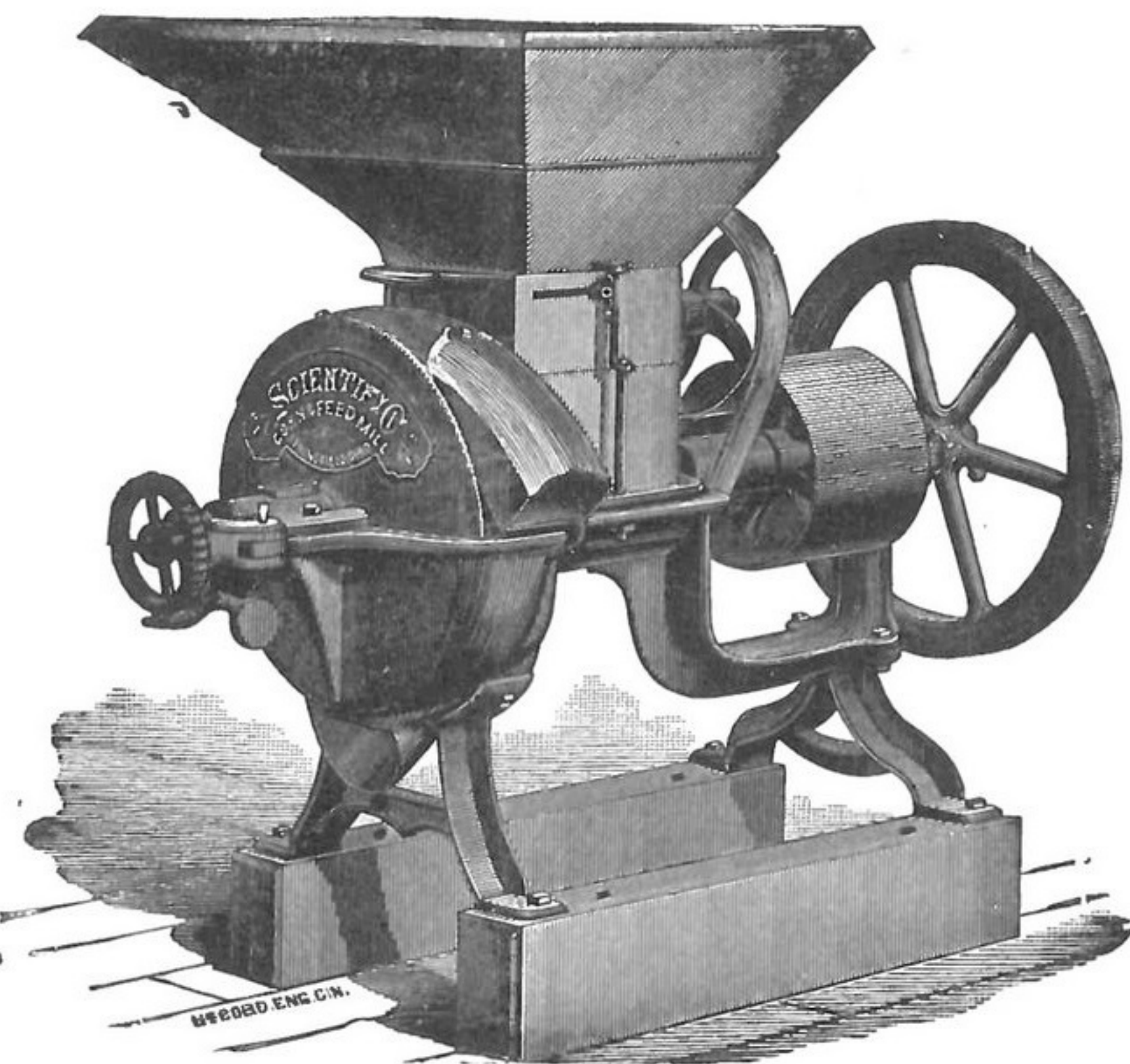
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